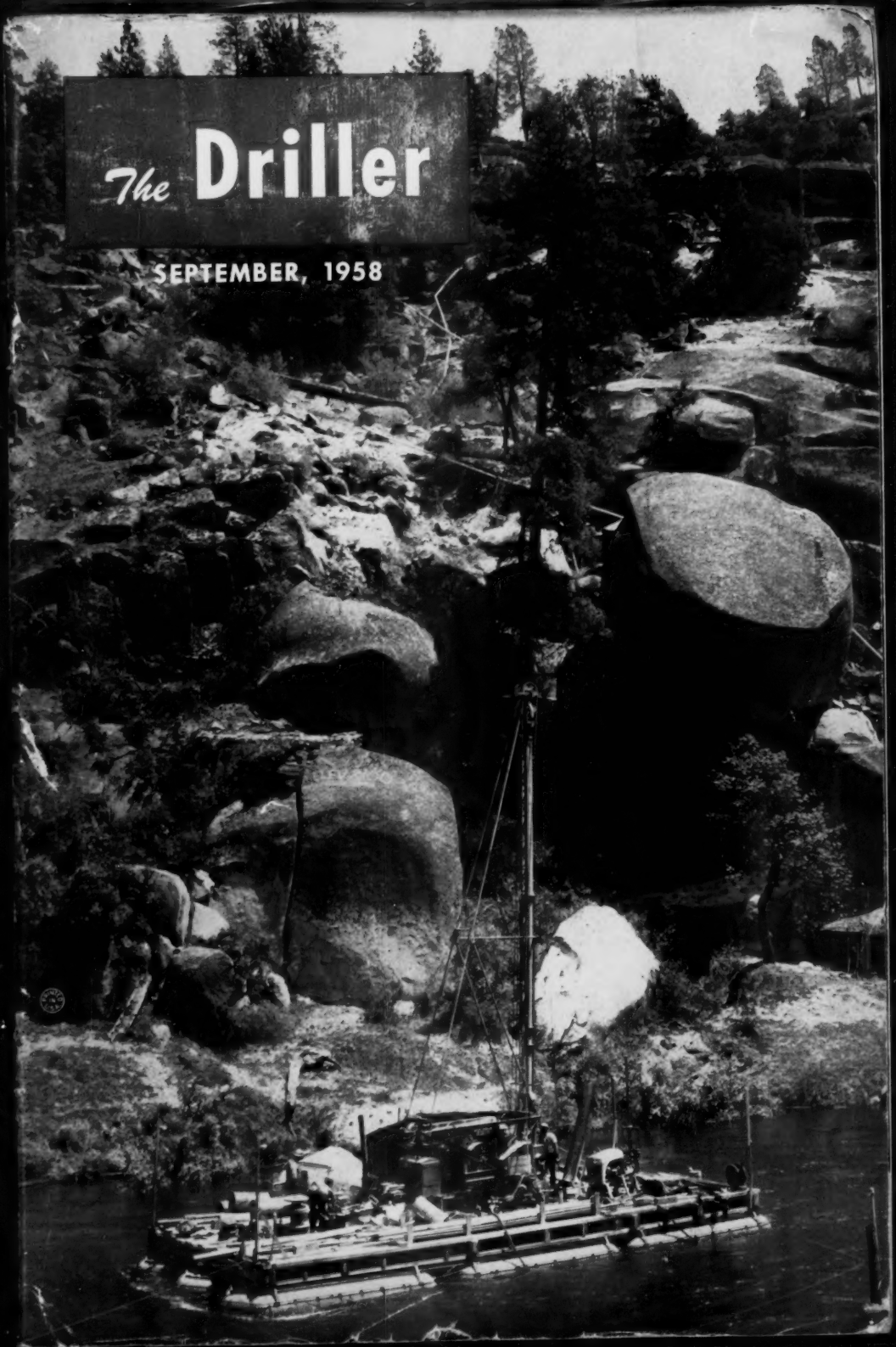
The Driller

SEPTEMBER, 1958



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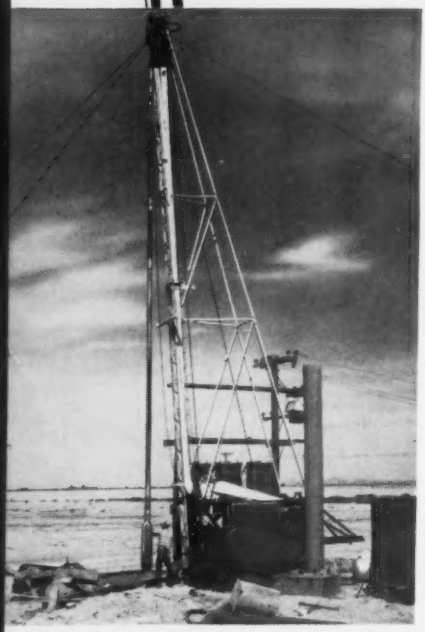

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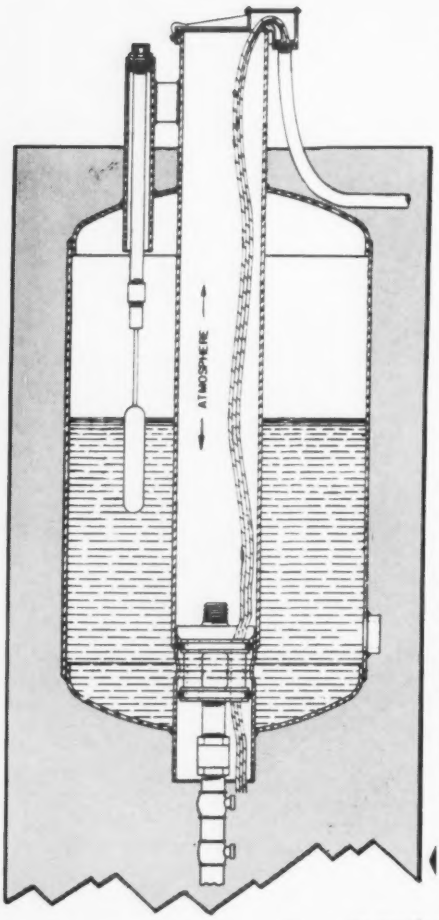

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The Driller

South Milwaukee, Wisconsin

Vol. 32 No. 9

September 1958

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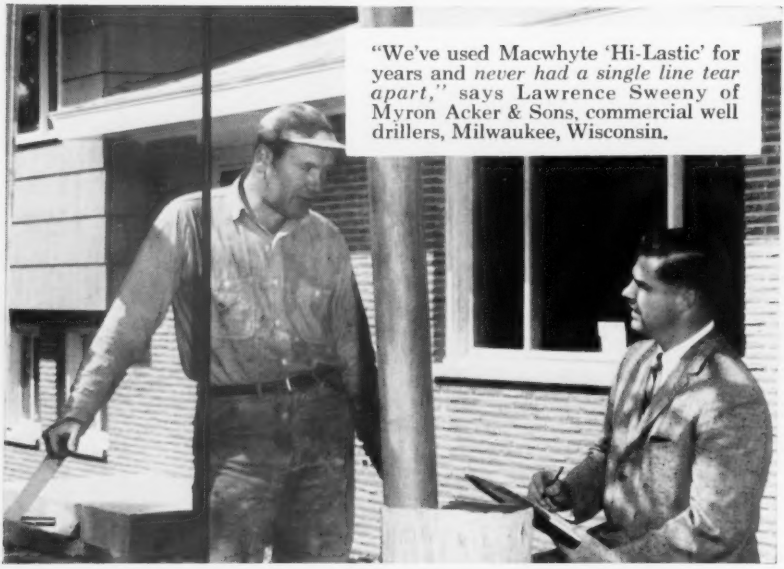

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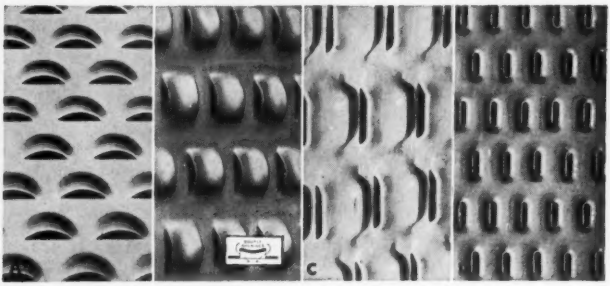

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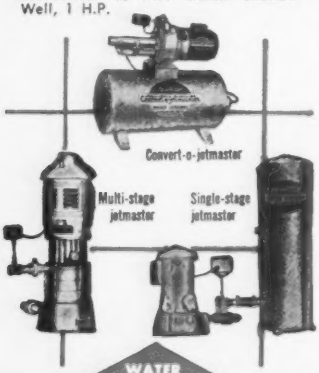

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BOX 324, RICHMOND, INDIANA

With Kentucky Driller Willard Kinzer . . .

Old Customers

Kinzer checks progress on a 5⅝-in. diameter well being drilled with one of his 20-Ws for a home near Pikeville, Ky.

DRILLING contractor Willard Kinzer of Allen, Ky., has always adhered to a policy of keeping his old customers completely satisfied before taking on new ones. When it comes to a choice between taking on repair work for a past customer or drilling a well, with a chance for greater profits, for a new one, the old customer is always taken care of first. His practice of rendering service of this sort and his reputation for quality work have helped him to build a faltering business that barely kept one drill busy in 1951 to a concern that today keeps four rigs on the move. And he's anticipating buying a fifth drill sometime this year.

Kinzer, 29, carries on his drilling business within a 75-mi. radius of Allen, a town of 900 population located in the heart of eastern Kentucky's bituminous coal mining region. Although the majority of his drilling consists of 5⅝-in. diameter shallow domestic wells which average 70 feet in depth, he also does a considerable amount of oil and gas well drilling and occasionally will take on some drilling for coal companies in the area.

Owns Four Drills

The drilling is handled by four drills, all Bucyrus-Eries, including: one 22-W, purchased in 1954 and mounted on a 6x6 army truck; two 20-Ws, one of them purchased in 1955 and mounted on a '53 Dodge 2-ton truck,

Come First

Kinzer, here chatting with driller Jack Webb, has placed an additional drill on his equipment roster every year since 1954, and may buy another this year.

the other purchased in 1957 and mounted on a 6x6 army truck; and one trailer-mounted 24-L, which is used for drilling shallow oil and gas wells. The drills are all spooled with ¾-in. wire rope, mostly Broderick & Bascom. The 20-Ws each have 400 feet of line, the 22-W, 800 feet, and the 24-L, 2,000 feet.

Other equipment includes: a 1947 Chevrolet 2-ton winch truck; a 1954 Willys Jeep 4-wheel-drive pickup; a 1945 5-ton Federal, which is used to tow the 24-L to and from job locations; and a pair of 1957 ¾-ton Ford pickups.

"We have an ideal setup here in Allen as far as service on our Bucyrus-Erie drills is concerned," remarked Kinzer. "McJunkin Corp., a Bucyrus-Erie distributor, has a branch office here, so whenever we need parts for our rigs, we can get them in a hurry. I don't have a complete set of fishing tools, but if I need a certain tool for a special fishing job, I can rent it from McJunkin. I couldn't ask for a better arrangement."

Willard got his start in drilling at the age of 15, when he worked for his father, who had been running a drilling business out of Allen for a num-

ber of years. His father, who had moved into this section of Kentucky from West Virginia in 1915, drilled the area for a number of years with an old steam-powered rig. When the senior Kinzer died in 1951, Willard carried on the business with the lone 240 Speedstar he had been operating at that time. Business wasn't too good the first two years. "I was afraid to take a chance on buying any additional equipment at first," Willard recalled, "but finally, in 1954, I bought a new Bucyrus-Erie 22-W. I was so pleased with the performance it turned in for me that the following year I bought another new drill, this one a 20-W.

"In 1956 I bought the 24-L, and last year I accepted delivery on another 20-W. Business began to perk up soon after I began investing in the new equipment. So far this year, business has been better than it was in 1957. I'm hoping that, in spite of the recession, 1958 will be the best year we've had. In fact, I've been considering buying a new 60-L some time this year."

Driller Kinzer talks with miner Johnny Adkins about well he's having drilled.

Hit by Flood in 1957

A major catastrophe struck Allen and the surrounding communities during January of 1957. Heavy rains swelled the Big Sandy River to the point where it overflowed its banks and flooded the narrow valley surrounding it. Allen, located at the junction of the Big Sandy and Beaver Creek, was hardest hit by the flood. It moved in with such suddenness that homeowners and merchants were unable to move to higher locations in time to prevent undue property loss. Water rose to a 5-ft. level in the Kinzer home, completely ruining furniture, floors, etc. Fortunately, all of his drills were working at higher elevations when the flood hit, so they escaped undamaged. The only piece of equipment touched by the flood was a Jeep service truck which had been standing in Kinzer's yard; it was completely submersed in the muddy water.

Here's what the ground formations in the area surrounding Allen are like: first, a layer of topsoil, varying in thickness all the way from two to 90 feet, is encountered; then drilling is carried on through alternating layers

Here's the casing tackle strut Kinzer made for use with his Bucyrus-Erie 22-W.

of sandstone and slate of varying thicknesses to the average 70-ft. completion depth. Occasionally, the drill tools will pass through a coal seam on their way down. Many of the wells Kinzer drills are bottomed in coal. The underground water supply in the area is not great, and a well that yields 100 gpm is considered a big producer.

One reason for the relatively shallow wells is the fact that, when they are drilled to depths of 100 feet or more, the likelihood of their producing salt water is very great. "There aren't any layers of salt in the ground above that level," Kinzer explained, "but as far as people around here can figure, the salt water comes up into the higher levels through old abandoned natural gas well shafts, drilled to considerable depths."

Hardsurfaces Drill Bits

Kinzer hardsurfaces all his drill bits. He uses a combination of electric weld on the bit's cutting edge and acetylene tube rod on the wearing surfaces. He has found that bits sharpened in this manner will hold up for an average of five wells. "Before we began welding our bits, we used to forge them," he recalled. "The forged bits would stand up for only five to thirty feet of drilling. We could always figure on using at least three bits per well. This welding operation is quite expensive, but it really pays off in the long run. Only where we are drilling in harder and more abrasive formations have we found that forged bits will stand up better than those that have been hardsurfaced."

As a rule, Kinzer buys from 1,000 to 2,500 feet of casing at one time and stores it in the 80 x175-ft. yard behind his shop in Allen. The shop is approximately 15 x 40 feet in size. When larger diameter pipe is needed for special jobs, he orders casing for each individual well.

Kinzer guarantees all the wells he drills. Customers pay a fixed charge per foot for new wells, but are charged hourly rates for well repair work. "We never turn down a customer's request for well repair work, even if we know we'll lose money on the deal," he stated. "We feel it's our duty to take care of our old customers before we have a right to start dealing with new ones. We've earned quite a reputation

Driller Grover Rowe, foreground, hooks cable to casing so it can be hoisted into position above well for installation. The well's being drilled with one of Kinzer's 20-Ws at the home of a miner living in a coal camp near Hellier, Ky.

for giving our old customers service of this sort and, believe me, a reputation like that is worth more than gold to us.

"Artesian wells are quite a rarity in this area," Kinzer related. "As a matter of fact, in the 14 years I've been drilling around here, I've run into only four or five of them. We just finished one of these artesians a short time ago. It was a 5⅝-in. diameter well I drilled for a home water supply near here. We hit sandstone at 15 feet and bottomed the well in the sandstone at only 38 feet. It was one of the fastest well jobs we've ever completed; we set our 22-W up and had the complete job done in three hours. But the well only produced around one gpm."

The 24-L has been kept busy drilling natural gas wells, the deepest one having been drilled to a depth of 2,257 feet. The well was drilled at 8-in. diameter to 1,400 feet, set with 6⅝-in. casing to that depth, then drilled down to the 2,257-ft. completion depth at 6⅝-in. diameter. Thirty days were required to finish this well, with the 24-L working 24 hours per day. Kinzer drilled through 105 feet of shale on one shift while working on this job. At the time of *The Driller's* visit, the 24-L had just completed a gas well at a depth of 1,549 feet and was scheduled next to be moved to another location where it would get started on another gas well that was expected to bottom at 1,800 feet.

Driller Grover Rowe and helper Tom Parsons had one of the 20-Ws drilling a water well for a miner living in a coal camp at Hellier, Ky. They expected the well to be complet-

ed at 55 or 60 feet. The 20-W had originally been moved in at the camp to drill a well for another miner. While it was working on that job, several requests came in for Kinzer to drill other wells at the camp. It was on its third well there at the time of *The Driller's* visit.

The other 20-W, with driller Jack Webb at the controls and John W. Estep serving as helper, was drilling a 5⅝-in. diameter well for a home-owner near Pikeville, about 20 miles from Allen. They expected to finish the well at around 70 feet.

Kinzer's drillers are not assigned to a specific drill and kept with that rig on every job. Instead, they are switched around from one drill to another when conditions warrant it. Two men, a driller and helper, always work with each of the drills. They are paid hourly wages for their services. Maintenance and repair work on the drills and other equipment is taken care of right on the job, whenever this is possible. When the repairs can't be made in the field, the equipment is brought into the firm's shop in Allen, where the necessary repair work is taken care of, either by Kinzer or by a maintenance man.

Kinzer examines drill bits, which he has stored on racks inside shop building.

A firm believer in advertising, Kinzer has listings in the classified sections of the local phone books, runs a regular ad in the weekly Floyd County newspaper and sponsors a daily radio spot announcement. "It's pretty difficult to evaluate the effectiveness of advertising for a water well drilling business," he remarked. "While you're advertising you don't know whether it's doing any good or not. It's when you cut out your advertising that you realize it was worth something after all. I think that, of all our advertising, the listing in the yellow pages is most effective. Not so much that it's the best medium, but rather,

(Continued on page 49)

Some Common Causes of Well Failure

There's a logical explanation behind every well failure. This article discusses causes and methods of reviving ailing wells.

AFTER a well has been drilled and pumped for some time, the user may notice that it is not delivering the same amount of water that it did at the beginning. This condition may become progressively worse and result in complete failure. Contributory causes for the failure of any well are either *natural* or *mechanical.*

Natural Causes

More often than not, we find these failures resulting from chemical reaction — incrustation or corrosion. Briefly, *incrustation* is the building up of material around the screen or perforated well section, even on the metal itself, to form a hard impervious wall through which water cannot pass. Soft incrustation is the result of carbonates forming light, fluffy deposits or sticky, pasty sludge or soft scale relatively easy to remove. Hard incrustation is the result of water-soluble sulphates and often requires more strenuous treatment.

Corrosion is a chemical reaction between the minerals held in solution and the metal of the screen or pipe, an actual eating away of the metal. Corrosion and incrustation can occur at the same time. Both can result from chemical action in the formation itself, aided by the metal of the screen or pipe. It isn't important from the practical point of view whether the failure is due to either incrustation or corrosion or both.

First evidence of anything wrong will be a slackening of pumping volume. When this is observed, some means must be devised for correcting the situation. If a screen has been set, the best remedy is to pull the screen, clean, and reset it. This isn't always practical. In the case of perforated pipe, it is impossible without removing the entire casing.

Half-way measures aren't always practical, either. The rate of incrustation may be reduced by slower pumping, for instance. But seldom is the user interested in such an operation;

(Continued on page 46)

This article is based on material taken from "Water Well Drilling with Cable Tools" — by Raymond W. Gordon. Copies of the book are available at a cost of $2.50 from Bucyrus-Erie Co., Publicity Dept., So. Milwaukee, Wis.

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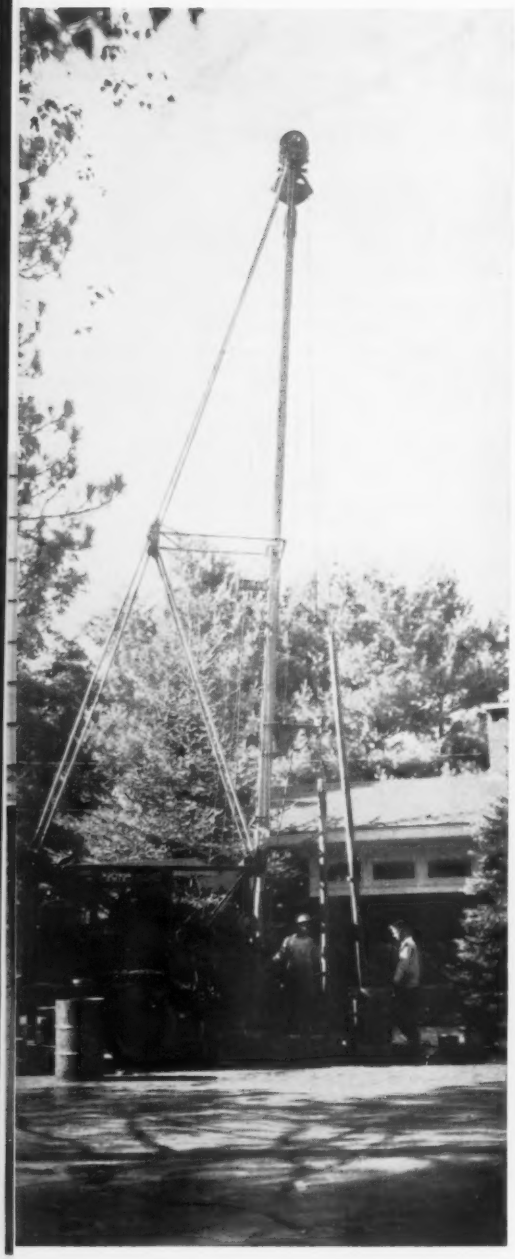


It's No Task for the Taskers

New Hampshire's Elmer and Murray Tasker claim it's no chore at all to find plenty of work for their four Bucyrus-Erie 22-Ws.

THE chill, early Fall air seemed to snap with a characteristic New England crispness as Murray Tasker sped his shiny new Mercury northward over the winding roads of mountainous central New Hampshire. He had just left Northwood Narrows, N.H., where he and his brother, Elmer, operate Taskers Artesian Well Contractors, a water well drilling firm they started back in 1947. His destination: Conway, N. H., a small town located around 50 miles north of Northwood Narrows in the White Mountains, a well-known winter ski resort area.

Elmer's wife, Edith, who does all the firm's book work, had driven 38-year-old Elmer up to Conway earlier that morning. He had gone up to help driller Ken Dyer and helper Harley Florence move one of the firm's four Bucyrus-Erie 22-W drills to a new lo-

Driller Kenneth Dyer and helper Harley Florence are getting started here on a 6-in. well for a home near Conway, N.H.

cation from a job it had just completed at Snow Village Lodge, a resort situated high up in the mountains near Conway.

Murray Tasker, 32, wasn't sure where Elmer and the other two men planned to set up the 22-W after tearing down at the lodge, so he hoped to arrive there before they made their departure.

"I don't know how Elmer can keep up the pace he sets for himself," Murray mused as he directed his car up and down one sharp incline after another. "He works from sunup 'til sundown, day in and day out; never seems to be able to take a break. He generally helps the boys tear down, move and get set up on a new job, then

The 35 x 45-ft. shop is equipped to adequately handle most repair jobs.

Elmer Tasker prepares to enter house trailer set up on job location. Trailer is equipped with bunks, a small stove, etc., to provide maximum comfort for men.

races across country to another rig to do the same thing all over again. He's always on the go."

After encountering considerable difficulty in finding it, Murray finally pulled his car to a halt before the lodge, only to find that Elmer and the boys had already moved on to their next location. They had left word where they were headed, however, so finding them was a simple matter.

Elmer and his crew had just pulled into the driveway of a new home set on a heavily wooded plot of rugged terrain on the opposite side of Conway when Murray arrived. Elmer was already scanning the grounds to select the most suitable spot for setting up the 22-W. He finally settled on a spot several feet from the house. A cheery grin covered his weather-bronzed face when he spied Murray's car. The two chatted for several minutes about the job just completed and about the estimated length of time required to finish the well they were just starting. Then Murray hopped into his car and was off to visit another job.

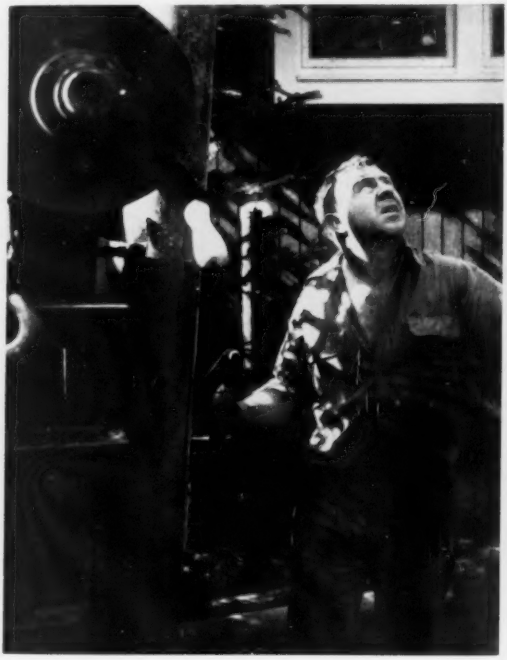
Elmer, again sporting his likeable grin, shook his head as he watched his brother disappear down the rough gravel road. "Murray just can't stay put for a minute," he chuckled. "He works day and night contacting customers, making sales, handling all the complaints, collections and what have you. I'm afraid I wouldn't last a week doing that sort of work. I have to be doing something outside, with my hands, either drilling, setting up, or tearing down." With that, he bent his short, stocky frame over to help place blocking under the machine. He estimated that the well they would drill here would be finished in gravel, at 90 or 100 feet.

This arrangement, with Murray handling the business details of their work and Elmer supervising activities in the field, seems to be working out very well for the Taskers. They keep their four Bucyrus-Erie 22-Ws busy full-time, drilling domestic wells within a 100-mi. radius of Northwood Narrows.

Drills on Four Different Make Trucks

The 22-Ws are mounted on four different makes of trucks: one of them is on a 1946, 2-ton Chevrolet; another is mounted on a 1949 F-6 Ford; a third is on a 1953, 2-ton Dodge truck; and the fourth is set on a 1951, 2-ton GMC. All the drills are powered by Hercules engines. They are spooled with Jones and Laughlin wire ropes;

Elmer Tasker and Kenneth Dyer steady casing in position to begin driving it.



¾-in. diameter is used for the drill line, ½-in. on the calf reel and ⅜-in. for bailer line.

Among the trucks the firm uses for hauling equipment and general service work are: a 1956 1-ton International; a 1954 GMC pickup; a 1953 Ford F-6; and two 1957, four-wheel-drive, International ¾-ton pickups. Both Murray and Elmer are against the practice of purchasing second-hand equipment of any sort. They feel that, when drillers or other workers are given new equipment to work with, they'll conscientiously try to keep that equipment in tip-top shape. The men are more inclined to take pride in the work they're doing, too.

The drills, trucks and other equipment, including a Worthington 205-cfm air compressor are serviced in a 35x45-ft. frame building located at the firm's headquarters in Northwood Narrows. The shop is completely equipped with all necessary tools to handle most repair jobs. Parts are kept in neatly compartmented bins lined up along one side of the shop. Behind the building is a gin pole, which proves most handy for loading and unloading pipe and other equipment. A stock of at least 2,000 feet of steel casing is kept on hand at all times; the 8-in. casing is 25-lb. test, the 6-in., 19-lb. test. One man is kept busy in the shop taking care of the repair and maintenance work and running errands with one of the pick-ups.

Well Depths Average 100-150 Feet

Wells drilled by the Taskers usually bottom at average depths of between 100 and 150 feet, but it is occasionally found necessary to drill deeper to hit adequate water supplies. A well Elmer drilled with one of the 22-Ws for a home in Franconia, located in northern New Hampshire, bottomed at 586 feet. He hit granite rock at 30 feet and drilled through it right to the 586-ft. completion depth. The well, which required six weeks for completion, produced a scant three gpm. Several years later, the firm drilled another well on the same property to a final depth of 286 feet. This one produced nine gpm. Most of the firm's wells are six inches in diameter, although an occasional larger-diameter well is drilled.

Murray described the ground formations encountered in the area covered by the company: "With the hilly and mountainous country around here, it's next to impossible to predict what you're likely to run into once you start drilling. Sometimes we'll drill through only 10 feet of overburden, then hit

Murray Tasker, 32, inspects neatly arranged parts bins inside shop building.

rock ledge. In comparison with this, Elmer drilled a well not too long ago where he went down 480 feet before running into rock. We have quite a bit of trouble running into boulders in this area, too."

The Taskers always use drive shoes when driving pipe. Murray explained, "When we first started drilling, we never bothered to use drive shoes. We felt that they were just some more unnecessary contrivances that really didn't accomplish a great deal. But we had so much trouble with pipe crimping or bending, especially if we were driving past boulders, that we decided to try drive shoes after all. Now we're completely sold on them and never drive an inch of pipe without one. As far as we're concerned, they're real time and money savers."

Started in Business with 33-W

The first rig owned by the Taskers when they entered the drilling business in 1947 was a Bucyrus-Armstrong 33-W, which they sold in 1952. Murray described one well they drilled with this rig: "The well was drilled for a home near Suncook, N. H. We drilled down to 140 feet, where we hit rock ledge. Then we set 160 feet of 6-in. casing and continued drilling down to 310 feet, where we hit a good supply of water. The story doesn't end there, however. Some time later, the state contracted to straighten State Hwy. 28, which ran by near the well. After they had done some blasting and pile driving in the process of constructing the highway, the well, for some reason or other, went bone dry.

"The state agreed to pay for the redrilling of the well, so we were called back, this time with one of the 22-Ws. We set our machine up over the old well and drilled down to around 580 feet, but we didn't get any water, or maybe ¾ gpm at the very most. Then we tried perforating the casing at around 85 feet. That did the trick; after perforating, the well produced over 10 gpm. The water came to within 20 feet of the top."

A small house trailer accompanies each of the drills to job locations.

A stock of 2,000 feet of casing, kept on hand at all times, is stored in yard behind shop building. Gin pole comes in handy for easy loading and unloading.

Drillers stay in them overnight when working at locations too distant to permit driving to their homes each day. The trailers are furnished with bunks, small stoves, etc. to provide the drillers with maximum comfort.

The Taskers' drillers generally work a 5-day week, but during busy periods they work six days per week. They are paid on a footage basis, the rate of pay depending on such factors as the ground conditions expected to be encountered, diameter of the well being drilled, etc.

The winters in New Hampshire are bitter cold, with temperatures sometimes dropping to an unfriendly -30°. At times like this, when the drillers are unable to continue drilling, and when an occasional slack period presents itself, the drillers work in the shop, painting their rigs and making repairs that can't be taken care of in the field.

Elmer Tasker, speaking for himself and Murray, praised the drillers employed by their firm: "All of our men really know their business; they are able to handle just about any problem that is likely to arise while they're drilling. Each is assigned to his own rig and is held responsible for keeping it in good condition. We never have any trouble with rigs becoming damaged or unnecessarily worn out because of improper care. We prefer to train the drillers ourselves, rather than hire experienced men.

"As a matter of fact," he continued, "we've started, indirectly at least, a number of men in business for themselves. We'd hire perfectly green men and train them from the ground up, making capable drillers out of them. Every now and then one of them buys a rig of his own and starts drilling for himself. As a result, some of our former drillers are now our competitors."

Recalling one well drilled by the firm, Murray chuckled, "We've had

(Continued on page 50)

Herb Johnson drops a stone into the mouth of the old well uncovered in the middle of U. S. 27 south of Lynn, Ind. In background is 30-ft. wooden casing.

Road Work Uncovers 140-Year-Old Well

WHILE workmen were bulldozing down a high bank in front of the Herb Johnson property along U. S. Highway 27 near Lynn, Ind., they uncovered a deep well with a 30-ft. wooden casing, estimated to be over 140 years old.

Older residents of the community, located in east central Indiana, were unable to shed any light on exactly how long the well had been there,

A 2-in. hole can be seen in middle of 30-ft. wood casing pulled from well.

Photos furnished through courtesy of Richmond (Ind.) *Palladium Item.*

although some estimates put it as long as 143 years.

A member of the Randolph County Historical Society reports that records indicate that a toll road which had been constructed in 1820 passed through the spot where the well was uncovered.

A Randolph county history reveals that survey parties had established way stations along the route some five years before that. The toll road was part of a pay system between Richmond and Winchester, which were the county seats.

One lifelong resident of the community, Cyrus Johnson, said that his father, Ira, had never made any mention of such a well being located there. The lives of the two Johnsons total 120 years.

The walls of the well, which is four feet in diameter, are lined perfectly with stones, without a single hole being visible above the water level. The exact depth of the well has not been determined.

The well casing was constructed by splitting each of two thirty-foot logs into quarters and cutting a circular notch along the length of each quarter. The eight quarters were then fastened together with the notches facing inside, leaving a 2-in. hole running the length of the casing. Although it was broken when workmen removed it from the well, the casing was not rotted and it appeared to be as solid as it was when it was installed some 14 decades ago.

How the well was drilled without the benefit of cable tool drills as we know them today is something of a mystery, although it is supposed that some sort of spring pole device was used.

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News of the month

Sumo Names Factory Representative for Southwest

The appointment of W. E. Elliott as factory representative in the Texas and Oklahoma area has been announced by Sumo Pumps, Inc., Stamford, Conn.

Elliott has had wide experience in the field, both in selling submersibles and in establishing and operating submersible service stations in the territory.

Currently, Sumo Pumps, ranging in size from ⅓ to 50 hp, and spare parts are being warehoused by Elliott's own concern, Water Equipment Warehouse Co., Dallas, Tex. Sumo expects that the range of pumps will be broadened later this year with a line of 1,750-rpm models with horsepower ratings through 100-hp.

New Carlon Plastic Pipe Made From Kralastic HTHT

A new rigid plastic pipe, made from the new HTHT Kralastic resin developed by U. S. Rubber Co., has been added to its line by Carlon Products Corp., Cleveland, Ohio.

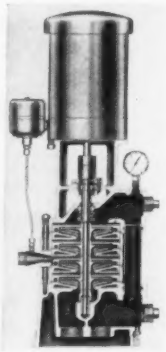
Carlon HTHT pipe is immune to rust, electrolytic corrosion, and corrosion from any known soil condition. Its smooth interior walls permit a higher flow rate than metal pipe, and corrosion resistance will preserve this wall smoothness indefinitely, preventing clogging and build-up of deposits.

HTHT pipe has high impact resistance, allowing it to be handled freely. It can be cut with a hand saw, and joints may be made by solvent welding. The Schedule 80 IPS pipe may be threaded with hand or power tools, if desired. These factors, combined with weight only one-seventh that of steel pipe, contribute to easy, quick and economical installation.

The new Carlon HTHT pipe is available in sizes from ½ through 6-in., for working pressures of 100, 125, 150 and 200 psi, and also in Schedule 80 IPS for working pressures to 500 psi.

For information on the new plastic pipe write to: Carlon Products Corp., Department TD, 10225 Meech Ave., Cleveland 5, Ohio.

Pump Adaptable For Pressures From 20 - 100 Lbs.



A new multi-stage jet pump, named the *Adapto-Flow*, which provides water pressure in ranges from 20-40 lbs., 40-60 lbs., or 80-100 lbs., has been introduced by Goulds Pumps, Inc., of Seneca Falls, N. Y., for home and farm deep well water systems.

The pump may be adapted on the job to the pressure range desired, permitting discharge pressures at the most efficient pumping range.

The pump is available in ¾ and

(Continued on page 32)

America's Best Jet Pump Buy!

Rapidayton

COMPLETELY DELUXED CHAMPIONS*

Take a close look at *any* Rapidayton Champion jet water system. Take it apart – as we have done on the next page. Check, one by one, the *quality*, *installation*, and *performance* features. Compare each part with any other make of pump, regardless of price, and you'll be convinced that only Rapidayton Champions are *completely modern, completely deluxe.*

Here are *all* the wanted deluxe features, not merely the one or two promoted by most manufacturers. Here is superior quality through and through – quality which eliminates costly service calls, quality which assures lasting customer satisfaction, quality which builds a solid reputation for you.

When comparing high-quality completely deluxed Rapidayton Champions with other makes, remember that size and weight alone are no guarantee of quality; in fact, huge, old-fashioned castings and outmoded designs may actually boost costs. Remember, too, that Rapidayton Champions cost far less than most so-called deluxe jets made by others—even less than many halfway deluxed low-end models. Because your net prices on Rapidayton Champions are remarkably low – and the customer gets a vastly superior pump at a realistic retail price – you are assured of BIG VOLUME and HIGH PROFIT.

Fully packaged and convertible systems make installation quick and easy, saving you more time for actual drilling. Since basic parts are interchangeable among models, and only a handful is needed, you can keep inventory to a very minimum. Install *completely deluxed* Rapidayton Champions on all your wells from 0 to 200 feet in depth. Do business with your Rapidayton wholesaler.

SEE NEXT PAGE

COMPARE FEATURES ON NEXT PAGE

then do business with your Rapidayton wholesaler

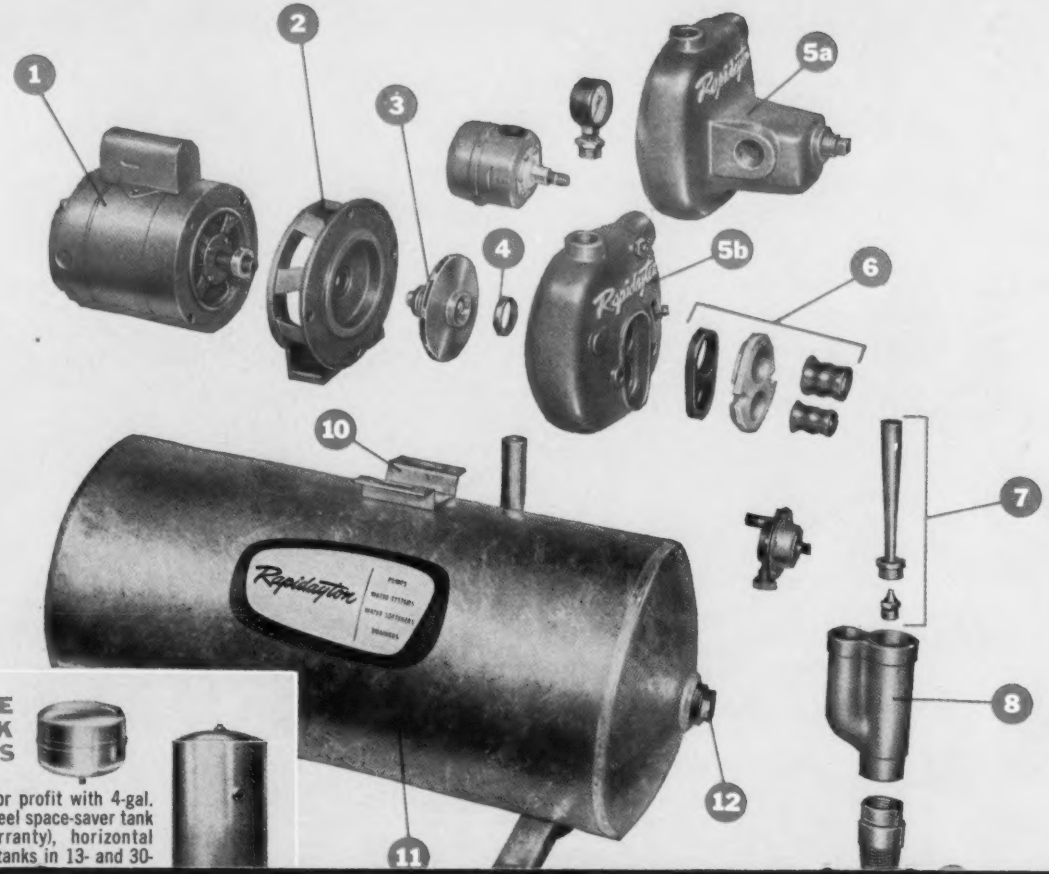
* TRADEMARK

Rapidayton division

The Tait Manufacturing Company, Dayton 1, Ohio

Established 1908 as The Dayton Pump and Manufacturing Co.

America's Best Jet Pump Buy!



THREE TANK TYPES

Packaged for profit with 4-gal. stainless steel space-saver tank (10-yr. warranty), horizontal galvanized tanks in 13- and 30-

gal. sizes, and big vertical galvanized tanks (which meet FHA requirements) in 42- and 52-gal.

Compare these *Rapidayton* Champion Deluxe Features, One by One

1. CAPACITOR MOTOR—Big heavy-duty, long-lasting 56-frame motor. Shaft couples with impeller outside pump body, never touches water. Motor can be removed without disturbing pump. Overload protected. NEMA standard, available anywhere.

2. OPEN, SEPARATE MOUNTING BRACKET—Moisture from pump can't enter motor. Exclusive sand elimination chamber prevents seal damage by sand. Exclusive brass seal retainer prevents improper seal installations. (Bracket is example of many interchangeable parts among Champion series.)

3. ONE-PIECE BRONZE IMPELLER—Rotary seal slides onto impeller hub—which couples with motor outside pump body. This is pump's only moving part.

4. BRONZE CLEARANCE RING—Bronze impeller "eye" revolves inside replaceable clearance ring. If necessary, after long service, pump can be brought up to maximum specs by replacing this inexpensive ring. Impeller cannot corrode to pump body.

5a. SHALLOW WELL PUMP BODY has "quad-volute" design (in single casting) makes pump self-priming, more efficient. (Corrosion-resistant coating bonded inside and out of all castings.) Bronze venturi and nozzle (with convenient clean-out opening) are built in.

5b. CONVERTIBLE PUMP BODY has same "quad-volute," self-priming design. Includes built-in bronze control valve for simple, positive adjustment and service-free operation.

6. QUICK-CONNECT FLANGE (patented) furnished with all convertible models. Eliminates need for fittings at pump (used with plastic or steel pipe), saving up to $10 in time and materials. Inserts (shown) furnished for plastic pipe.

7. BRONZE VENTURI AND NOZZLE—Venturi hardened and micro-smooth. Nozzle precision-made for maximum efficiency.

8. GALVANIZED OR BRASS EJECTOR BODY—Heavy galvanized body for long-lasting service in normal water. Smooth-flow water passages increase performance, avoid sharp, pressure-robbing turns. Solid brass at small additional charge.

9. BRASS "COCK-PROOF" FOOT VALVE has Tait-made self-sealing poppet for trouble-free performance.

10. NEW EASY-ACCESS TANK BRACKET—Easy access to bolts makes it simple to remove pump from tank. This bracket, used on all tanks, also makes possible quick interchange of tanks and pumps. New one-piece feet give solid stance, won't rock or chatter.

11. HEAVY-COATED GALVANIZING, hot-dipped inside and out in Tait's own plant. Premium quality. Gleaming surface for top sales appeal.

12. FORGED STEEL "SPUD" for tappings at tank heads. Eliminates thread stripping and loss of time.

NOTE: Rapidayton Champions are equipped with heavy-duty pressure switches, of course, and a gear-type pressure gauge.

RAPIDAYTON DIVISION / The Tait Manufacturing Company, Dayton 1, Ohio

Established 1908 as The Dayton Pump and Manufacturing Company

News . . .

(Continued from page 28)

1-hp, two-stage; 1½-hp, three-stage; and 2-hp, four-stage units for well depths to 300′, with capacities up to 930 gph and pressures up to 115 lbs. Complete jet assemblies are furnished with a complete system for 3-in., 4-in., 4½-in. twin pipe and 2 and 3-in. packer installations.

Perfect permanent alignment on the pump is assured by a ball thrust bearing, which positions the rotating elements to maintain exact impeller running clearance. This bearing and the use of flexible coupling, which does not transfer radial or thrust load to the motor, insure longer motor life, the company claims. The leaded bronze lower bearing is protected against sand or other abrasive materials by combination impeller nut and sand slinger.

Stage alignment is securely maintained by rabbeted fits from the base to the motor. Inter-stage rabbet locks prevent high pressure blowout. An exclusive seamless drawn brass downcomer gives a large, permanent and smooth water passage and permits use of rabbet locks on stages to confine simple round gaskets. Units are shipped with second-stage discharge and manual control valve. Automatic control valves are available for each horsepower rating. For further information on the *Adapto-Flow,* write to Goulds Pumps, Inc., Department TD, 45 Black Brook Rd., Seneca Falls, N. Y.

ADC Convention To Be Held Sept. 26-27 in Monterey

Announcement has been made by the Associated Drilling Contractors that their 1958 convention will be held Sept. 26-27 at the Casa Munras Hotel in Monterey, Calif. A complete schedule of activities, including educational programs and social functions is planned.

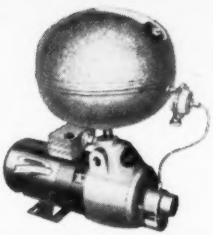
Idaho Drillers Meet June 29-July 2 at McCall, Idaho

The Eleventh Annual Convention of the Idaho Drillers Association was held June 29-July 2 at Shore Lodge, McCall, Idaho. Among the wide vari-

Pictured is a group of contractors and suppliers who attended the Idaho Drillers Association 11th Annual Convention, which was held June 29-July 2 at McCall, Idaho. Elected to head the association are (front row, 3rd, 4th, 5th & 6th from left): Jim Schoonover, 1st vice president; Bruce Bowler, secretary-treasurer; Bill Lukehart, president; and Paul Smith, 2nd vice president.

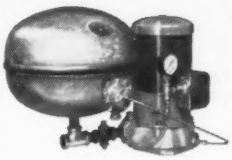
There's a BERKELEY PUMP to fit each of your customer's needs!

WATER SYSTEMS



WATER-MATE SYSTEMS: Budget Horizontal convertible jet pump. Cap. to 1500 GPH. Depths to 100'. ⅓ to 1 HP.

Ask for Bulletin 1055



BANTAM-JET SYSTEMS: Budget vertical deepwell jet pump. Capacities to 1800 GPH. Depths to 140'. ⅓ to 1½ HP.

Ask for Bulletin 1103

VERTICAL JETS: Deliver up to 1500 GPH from 150'. Up to 5000 GPH maximum. ⅓ to 5 HP models.

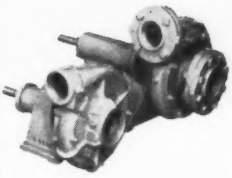
Ask for Bulletin 1105

SUBMERSIBLES

BERKELEY SUBMERSIBLES: 4" or larger sizes. Efficient deep-well pumping units. Up to 4500 GPM Depths to 1000'.

Ask for Submersible data.

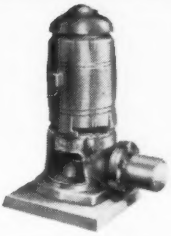
SPRINKLER PUMPS



BERKELEY SPRINKLER PUMPS: Motor, engine or belt drive. Cap. to 4000 GPM. Heads to 180 PSI. 1 to 200 HP.

Ask for Sprinkler Pump Data.

TURBINES



BERKELEY TURBINES: Wide range of sizes—4" to 24" models. Capacities to 10,000 GPM. 1½ to 250 HP.

Ask for Turbine Data.

No two customers are alike in their requirements. Full-line Berkeley dealers sell more because they sell a complete line. Now is the time for you to become a Berkeley dealer. Write today for details and discounts.

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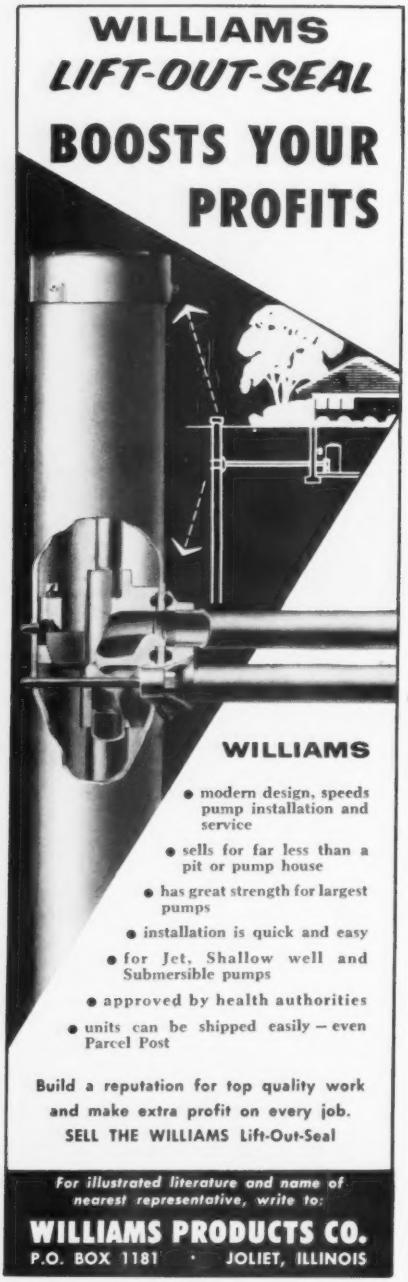
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ety of activities taking place at the convention were a get-acquainted party, business meetings, election of new officers, special ladies programs and a series of educational talks. Among the talks were an address by Bruce Bagwell on *The Use, Installation and Field Service of Submersible Pumps,* and one on the *Proper Procedure for Dressing and Tempering Drill Bits,* by George A. Fish, Jr.

Pump Manufacturers Choose Film for 1959 Promotion

"The pump business is good business and it leads to more business in water-bearing products and appliances."

"There's no other industry in America today that contributes more to our modern way of life, our very health and welfare."

"Building an adequate water supply is basic to building up rural and suburban property."

These comments, voiced by various members of the National Association of Domestic & Farm Pump Manufacturers at their summer meeting, held June 23 at Delavan, Wis., helped lead to the Association's decision to prepare a sound and color promotional film for the pump industry's use during 1959.

Willard C. McNitt, chairman of the General Planning and Markets Committee of the Association, suggested that "Basing our future promotion on a film will be an effective change of pace from our previous promotion, centered around our May National Water Systems Month, with a poster and supplementary literature. It will bring our industry added prestige and will be a visual tool in describing attractively the important benefits of

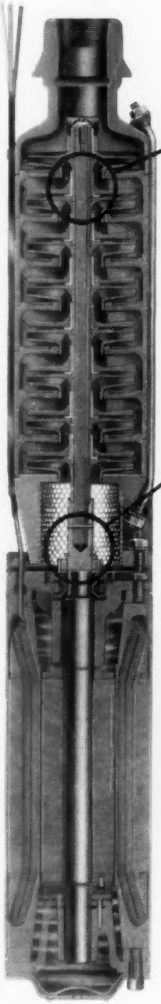
You want **MORE** *than* **TALK** *about*

PROGRESS

You want something you can **USE**

We present the IMPROVED NEW —

AURORA® *Submersible* PUMPS



These lasting NYLON bearings are retained in solid brass walls to insure against distortion.

Here is a RIGID ASSEMBLY which creates a true operating unity between the Aurora Submersible Pump and the U. S. Electric Motor.

Two competent teams of specialists — the AURORA team, exclusively devoted to building fine pumps — and the U. S. ELECTRIC team of motor specialists have devised major improvements in the design of AURORA Submersible Pumps. Note the bearings of NYLON — an ideal bearing material — retained in solid brass walls where there can be NO DISTORTION — and the rigid pump-motor shaft assembly which has been proven as the most satisfactory method of coupling the pump and the motor. These outstanding improvements assure a level of operating satisfaction unmatched elsewhere.

DEALERS and DRILLERS See Your AURORA DISTRIBUTOR or WRITE for FACTS

Ask For BULLETIN 130

***The* LATEST *and* BEST *in* WATER SUPPLY *for* HOMES • FARMS • INSTITUTIONS**

For 4" and Larger Wells — Capacities to 2,100 g.p.h. Water levels to 400 feet.

•

Corrosion-Resistant, Factory-Sealed, Permanently Lubricated U. S. Motor

•

Noiseless, Freeze-proof, Out of the Way

•

Easy, One-Pipe Installation

•

Backed by Broad AURORA Warranty

AURORA PUMP DIVISION
THE NEW YORK AIR BRAKE COMPANY

• AURORA • ILLINOIS

EXPORT DEPARTMENT — Aurora, Illinois — Cable Address "NYABINT"

having an ample supply of running water under pressure beyond the water mains."

While the eleventh annual National Water Systems Month will still be observed in May, 1959, the Association, through use of the proposed film, plans to base its promotion on year-round effort, rather than an intensive one-month promotion.

The pump manufacturers' film will be intended for showing to lending agencies, farm groups, cooperatives and extension groups, agricultural college classes and other schools, government groups such as FHA, and pump dealers and distributors. It will also be adaptable for use in television.

Fairbanks-Morse Announces Newly Designed Submersibles

Fairbanks-Morse has announced a new open impeller cast iron pump series, which is designed to handle the pumping requirements of small irrigation projects, schools, dairies, large farms, etc. The new pump comes in four sizes: 1½-hp, 7-stage; 2-hp, 9-stage; 3-hp, 13-stage; and 5-hp, 20-stage.

According to the company, the stainless steel intake screen and component parts of the pump (motor bracket, bowls, bearing housing, valve body), which are made of *Pomoloy*, a close-grained, high tensile cast iron, assure greater resistance to corrosion than ordinary cast iron affords.

Positive power application is assured through use of a splined coupling between pump and motor. All water passages through the bowls are porcelain enameled to provide a smooth path for water flow, thus reducing friction and increasing efficiency.

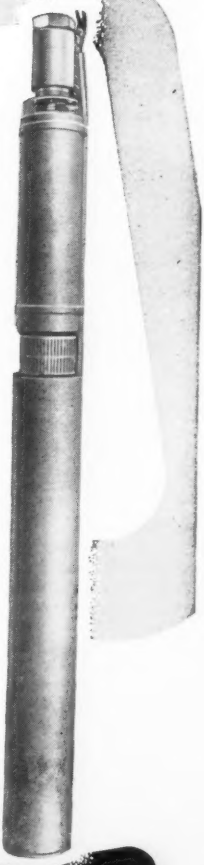
The new Fairbanks-Morse pump is water-cooled and water-lubricated, will fit into wells four inches in diameter and larger, and is available in either single or three-phase.

Experts Conduct Clinics at Mid-South Convention

A wide variety of clinics were conducted by experts in their respective fields at the 1958 Mid-South Water Well Convention, which was held June 25-27 at the Hotel Claridge in Memphis, Tenn. Among the subjects

Getting the "feel" of the tools on this ¼-scale model 22-W at the Mid-South Convention is "expert" Tony Calfee, age 20 months. He is the son of driller G. E. Calfee, of White Pine, Tenn.

choose sales leading REDA Submergible Pumps to lift your profits!*



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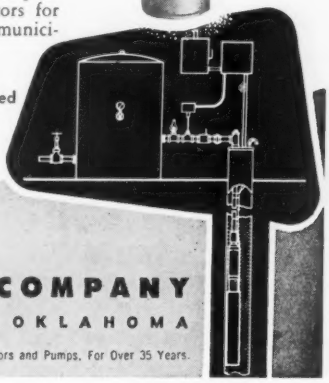
As a dealer for REDA you are assured of a *complete line* of submergible pumps from ⅓ to 300 horsepower, for any depth, capacity or pressure your customers may require!

Your sales are backed by REDA's 35 years of manufacturing the highest quality, competitively priced submergible pumps and motors for homes, farms, ranches, industries and municipalities.



Simple, one-pipe installation, sealed lubrication, liberal warranty!

Get the FACTS. Write for complete information TODAY:

SIGN OF QUALITY SUBMERGIBLE REDA PUMPS

REDA PUMP COMPANY

BARTLESVILLE, OKLAHOMA

Worlds Largest Manufacturer of Submergible Electric Motors and Pumps, For Over 35 Years.

SAVE your customers
50-75%
installation costs
over metal
water pipe . . .

with
LIGHT
but
TOUGH
PLASTIC

Cres LINE-KL®

GUARANTEED-QUALITY KRALASTIC PLASTIC PIPE

Cresline-KL Kralastic is the lightest of all semi-rigid or rigid plastic pipes . . . can be welded together with solvent in minutes . . . can be laid by inexperienced labor. For these reasons it costs 50% to 75% less to install Cresline-KL pipe than standard metal pipes. Combines outstanding characteristics of toughness and rigidity. Completely non-toxic . . . approved by the National Sanitation Foundation for drinking water use. Pressure rated at 75#, 100#, and 150# for water service lines, sprinkler systems, radiant heating, etc. For wells as deep as 280 feet, semi-rigid Cresline-KL is available in 10- to 20-ft. sections with male or female threaded adapters at either end. Also many industrial applications, especially where corrosion is a problem. Write for full details on this and other Cresline plastic pipes.

. . . also available CresLINE
GUARANTEED QUALITY FLEXIBLE PLASTIC PIPE

Sure to win customer satisfaction because Cresline Flexible Plastic Pipe is guaranteed right *in writing*. Cresline Flexible Plastic Pipe is manufactured of Du Pont Alathon 25, making those who handle this superior pipe eligible to win one of more than 100 prizes in Du Pont's easy plastic pipe contest. Details are attached to each coil of Cresline Flexible Plastic Pipe.

Write for free authoritative booklet —
"How to Choose and Use Flexible Plastic Pipe"

ALL PLASTIC PIPE IS ROUND, BLACK AND HAS A HOLE IN IT . . . BUT THERE IS A DIFFERENCE!

CRESCENT PLASTICS, Inc.
Dept. D-8, 955 Diamond Ave., Evansville 7, Ind.

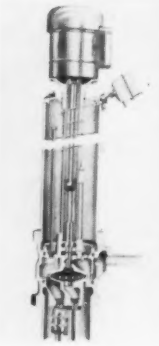
covered in the clinics, and the companies and agencies sponsoring them, were: *Importance of Putting It in Writing,* J. Herbert Brown, National Association of Credit Men; *Personalized Customer Relations,* A. Y. McDonald Manufacturing Co.; *Chemical Treatment of Wells,* Calgon Co.; *Ground Water Problems in the Southeast,* U.S. Geological Survey; *Air Volume Controls,* Penn Controls, Inc.; *Application of Helical Screw Type Pumps,* Continental Pump Co.; and *Pertinent Facts Regarding Motor Application,* A. O. Smith Corp.

In addition to the educational talks, a full round of social activities took place, including a Mississippi River boat ride and sand bar party, a dinner-dance, and special tours and programs for the ladies.

The convention, which was sponsored by the Alabama, Arkansas, Louisiana, Mississippi and Tennessee state associations, was conducted by a committee of The Manufacturers and Suppliers Div. of the NWWA.

J. D. Tennison, Jr., was arrangements chairman for the three-day convention.

New Pitless-Pump Unit Available from Baker



Baker Manufacturing Co., Evansville (Wis.) manufacturer of Monitor pumps and pitless units for farm and suburban homes, has announced an entirely new pitless-pump unit, which is connected to and forms the upper

part of the well casing extending above ground. The unit, known as the *Monitor PJ*, includes a specially designed centrifugal jet pump, which is mounted within the casing below the frost line, with the jet and drop pipe assembly extending down into the well.

The pump is shaft-driven by a standard weatherproof motor mounted above ground on the casing. All water passages are below the frost line. No pit or heated enclosure is needed. The location of the pump at the well, instead of offset, as customary with jet pitless installations, greatly simplifies installation, according to the company spokesman.

Motor and pump mountings and water connections are automatically provided when the *PJ* is attached to the well casing. Only a single run of

(Continued on page 40)

"Now when did Hoskins do that to us?"

NEW! JENSEN introduces the littlest jack

Model 11-W—a Mighty Midget!

With only a 1/6 H.P. motor it pumps to 190 ft. open dis. or 120 ft. with 20/40 system.

A proved, dependable and economical little unit that is ideal for shallow wells.

Highly profitable for the dealer. Installation is quick and easy because no foundation is needed, the Model 11-W threads directly to the drop pipe. Completely weatherproof, no pump house is necessary.

Fewer working parts, all self-lubricated from main oil reservoir.

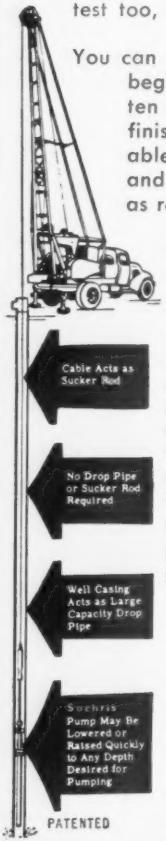
Write for catalog and attractive dealer discounts on all 15 sizes.

JENSEN WATER SYSTEMS

Made by JENSEN BROS. MFG. CO., INC., Coffeyville, Kansas

SOCHRIS "WELL DRILLER'S PUMP"

No drop pipe . . . No sucker rod needed . . . pump operates by cable from rig . . . automatically seals off casing . . . sets up vacuum below seal . . . gives a real clean-out . . . accurate capacity test too, eliminates bailing.


Cable Acts as Sucker Rod
No Drop Pipe or Sucker Rod Required
Well Casing Acts as Large Capacity Drop Pipe
Sochris Pump May Be Lowered or Raised Quickly to Any Depth Desired for Pumping
PATENTED

You can set this pump and begin clean-out within ten minutes after you finish drilling. Available for all casings 3" and up . . . capacities as required.

Here's what another driller reports:

"I like your pumps fine. They save me considerable in test pump installation time and throw a lot more water than any rod pump one would put in a well.

I figure your 8" pump paid for itself on one job."

Write for bulletin advising inside diameter of wells

SOCHRIS DEVELOPMENT CO.
WILMETTE BOX 82 ILLINOIS

News . . .

(Continued from page 39)

pipe from the well is used. This pipe, being under pressure at all times, does not require enclosure. Elimination of the return run of pipe, ordinarily needed, avoids chronic jet clogging from pipe scale.

According to the manufacturer, the *Monitor PJ* meets the strictest well codes. It is available in ½ and ¾-hp sizes for water depths to 80 feet, for all frost line depths, and for casing sizes from four to six inches. A five-year guarantee is provided with the new pitless-pump unit.

For complete information on the new *Monitor PJ*, write to: Baker Manufacturing Co., Department TD, Evansville, Wis.

New Topper Line Features Tank-Mounted Myers Pumps

A new *Topper* line of tank-mounted water systems is being introduced this month by The F. E. Myers & Bro. Co.

The *Topper* line is available in three shallow well models and two deep well models with capacities to 800 gph. The units come complete

with pump, tank, air control, pressure gauge, pressure switch, regulator and proper ejector assemblies.

The new series requires less than four square feet for installation. The units are shipped completely assembled and packaged, including the tank, ready for installation.

The pressure tank used with the new units has an oversized 26-gal. tank capacity and is "fire-cured" epoxy coated inside and out.

Further information is available from Myers distributors and dealers or by writing directly to: The F. E. Myers & Bro. Co., Department TD, 301 So. Orange St., Ashland, Ohio.

When writing advertisers, please say you saw it in *THE DRILLER*

Cletus Elbert

Cletus Elbert, water well drilling contractor of Algona, Iowa, died of a heart attack in Algoma, on May 14, 1958.

Before starting his own drilling firm in 1946, Elbert worked for his father, Frank Elbert, who operated a well drilling business in Whittemore, Iowa.

Elbert was a member of the American Legion, the National Water Well Association and the Iowa Water Well Association. He was very active in the Iowa organization.

Surviving Elbert are his wife, Irene; one daughter Pat, 6; a son Mark, 4; his mother and father, Mr. and Mrs. Frank Elbert, Whittemore; three brothers and two sisters.

VALLEY STEEL PRODUCTS COMPANY

Louisiana, Missouri

NEW AND USED WATER WELL CASING

ALL SIZES
ALL WTS.

LINE PIPE
IRRIGATION PIPE

GALVANIZED
BLACK

OIL WELL CASING AND TUBING

FREE QUICK DELIVERY — YOUR YARD OR JOB SITE
WATCH FOR OUR TRUCKS — THEY DELIVER IN YOUR STATE

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CALL COLLECT • BUY DIRECT

Service 24 hrs. per day for ***365 days a year***

ECONOMICAL PRICES • QUICK DELIVERY • SATISFACTORY SERVICE
WATER WELL CASING AND PIPE OUR SPECIALTY

Take an x-ray look into

GOULDS NEW *Adapto-Flow* MULTI-STAGE PUMP

Special refinements *inside* this brand new multi-stage pump protect your profits *after* the sale.

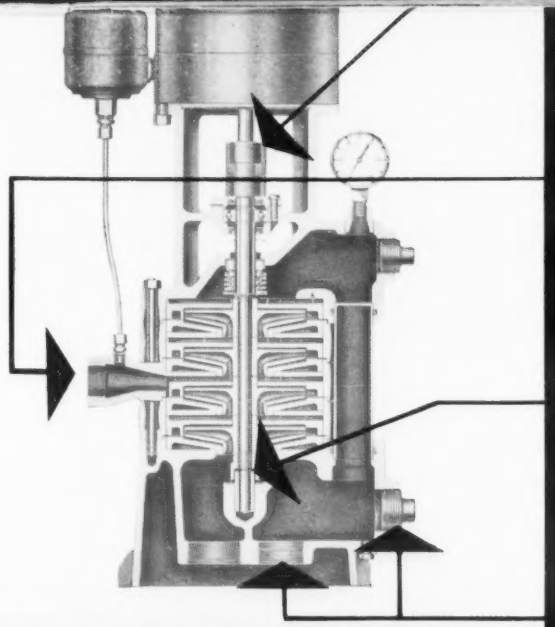
Goulds new "Adapto-Flow" deep well pump requires less servicing on the job due to these special built-in features:

1. It converts easily and quickly to the most efficient pumping range.
2. Ball thrust bearing and flexible coupling keep it in perfect alignment *permanently*.
3. 3-way base helps you install it easily and quickly.
4. Lower bearing is protected against sand and other well water abrasives.
5. Safe motor loads permit continuous use without burnout.

Four units of ¾, 1, 1½, and 2 HP are built with 2 to 4 stages. Get capacities up to 930 GPH, pressures up to 115 lbs for well depths to 300 ft. Get all the details by checking with your Goulds distributor, or write: Goulds Pumps, Inc., Dept. DR-98, Seneca Falls, N. Y.

PERMANENT ALIGNMENT

Ball-bearing construction and flexible coupling provide permanent alignment in pump, assuring longer seal and bearing life.



CONVERTS EASILY, QUICKLY

For any pressure—20-40 lbs standard to 60-80-100 lbs or more depending on size—just adapt discharge stage to required position.

PROTECTED LOWER BEARING

Leaded bronze bearing is fully protected against sand and other well water abrasives. Can save you a service call.

EASY TO INSTALL

5 tappings for well pipes permit fast and easy over-the-well or offset installations—eliminates need for extra pipe fittings.

GOULDS

BEST JETS YET

GOULDS PUMPS, INC.

Main Office and Works

Dept. DR-98, Seneca Falls, N.Y.

BITS *from the wit sharpener*

"You can't walk out on me like this," shrieked the circus proprieter to the man who, for eight years, had allowed himself to be shot out of a cannon twice daily without a word of protest. "Where could I find another man of your caliber?"

A young lady boll weevil was being courted by two young men boll weevils. One was rich, and the other was poor. She married the poor one, though, figuring he was the lesser of two weevils.

A young governor in an eastern state was asked to address the prisoners at the state penitentiary. It was his first speech after election and he was somewhat nervous.

He started off, "Fellow citizens"—then realized that the prisoners were deprived of their citizenship during their imprisonment. He stopped and started again, "Fellow prisoners"—

He realized too late his second mistake, so he continued, "Well, anyway, I'm glad to see so many of you here."

Mr. Chan owned a warehouse full of teakwood which was repeatedly burglarized. One day he made a tour of his warehouse looking for clues. He found a broken window and tracks, similar to those of a small boy. That night, Mr. Chan stayed in the warehouse to catch the thief stealing his teakwood. At midnight a bear climbed in the window and picked up a load of teakwood and started off. The Chinaman jumped out and cried: "Stop, boyfoot bear with teaks of Chan!"

The drunk sitting at the bar was adjacent to a man and his wife. Suddenly the drunk came forth with a resounding burp.

"How dare you belch before my wife?" thundered the husband.

With that the drunk unsteadily got off the bar stool and making a sweeping bow said, "A thousand pardons, sir. I did not know it was the madam's turn."

The oldtimer greeted his new cell mate with the question: "How long you in for?"

"Twenty-five years," the new prisoner replied.

"Then you take the bed nearest the door," said the old inmate. "You'll be getting out first."

An eastern crematorium is reported to be bottling the ashes and selling them to African cannibals as "Instant People."

A Youngster's Essay on Love

Love is something that when mummy kisses daddy, I have to go out in the yard and play for an hour. Love is something like when the man comes to read the gas meter, he kisses the cook and I have to go out in the yard and play for two hours. Love is something like when my big brother invites his girl friend into the house to teach him some new dance steps and I have to go out in the yard and play for three hours. Love is something that is forcing me to live an outdoor life when I want to come in and play house with Ronald, the little boy from next door.

Faster, easier installation!

USS National Double-Duct Polyethylene Pipe

(NSF Grade)

USS NATIONAL Double-Duct Polyethylene Pipe (NSF Grade) consists of two separately extruded, joined pipes. Expressly designed for jet well installations, it facilitates attachment of the pipe to the venturi and makes it easy to feed the drop pipes into the casing. Made of 100% virgin on-grade polyethylene resin, NATIONAL Double-Duct Polyethylene Pipe is light in weight, corrosion-proof and durable. Available in four different sizes—standard and 75# pressure-rated.

For complete details, write to National Tube Division, United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pennsylvania. Ask for Bulletin 29.

USS and National are registered trademarks

"The world's largest and most experienced manufacturer of tubular products—NATIONAL TUBE"

National Tube Division of United States Steel

Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributors • United States Steel Export Company, New York

Well Failure . . .

(Continued from page 18)

he generally wants all the water he can get. Corrosion can sometimes be corrected by mechanical means, such as brushes, to break down and remove the products of the corrosive process. But if acids are used to rehabilitate a well, the metal in the screen must be acid resisting because acid may attack an iron or steel screen to make the situation worse.

Even with the most experienced men on the job, results are not always satisfactory. Where conditions permit, however, the proper application of acid will eliminate or at least reduce incrustation around a screen. Then, if corrosion has not been too great, the well can be brought back to some degree of usefulness.

Generally, acid treatment is made by using 18 degree or 28 per cent commercial muriatic acid, which is, chemically speaking, hydrochloric acid. Sufficient acid to fill the screen should be used. Because its specific gravity is heavier than water, it will settle to the bottom. It should be poured into the screen through a small diameter (½ to 1-in.) black iron pipe long enough to reach the bottom of of the well. If the screen is longer than four or five feet, enough acid should first be deposited to fill only that amount. Then the pipe is raised four or five feet, additional acid is deposited in that region, and the process is continued until the screen is filled. Since acid mixes readily with water, it should be deposited with as little agitation as possible. As soon as the screen has been filled, about 10 per cent more acid should be added to provide for some loss and to make sure that it remains filled.

After it has been allowed to stand for an hour or two, the acid solution should be agitated with the small pipe. It is agitated again after another hour or two. This periodic agitation should be carried on for 10 or 12 hours if time permits. Then the well should be surged with a solid block surge plunger for several minutes and allowed to stand three or four hours, after which it should be surged heavily for a few minutes and cleaned with a bailer. The process may be repeated if it is believed that the incrustated deposit demands additional treatment. After the acid treatment has been concluded, the well should be pumped until all traces of acid are removed.

Formations high in organic or clayey materials may require sulphuric acid in addition to the hydrochloric acid treatment. Sulphuric acid is introduced after one application of hydrochloric. The reaction of the two acids is more violent, and some heat is generated along with the liberation of gas.

A great deal of care should be used

"Remember dear, for better or for worse."

"Like 1-W's easy, one-man operation"

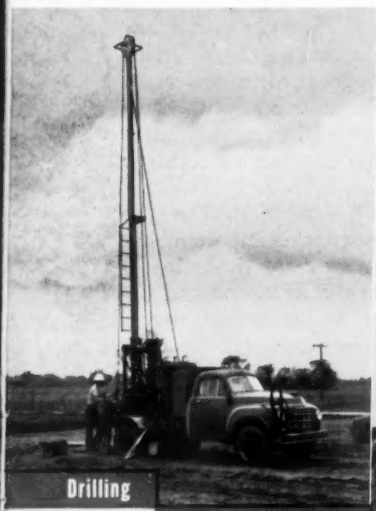
--says Clayton Willour, Wolcottville, Indiana

"I like the 1-W. One reason I got it was that I wouldn't have to hire another man to operate it or to help me. The hydraulic spudding motion provides a snappy, smooth drilling action . . . and the variable stroke comes in handy. The 1-W sure gets around, too, which is a help in the territory I cover, within a 30 to 40-mile radius of my home."

Willour uses his one-man Bucyrus-Erie 1-W as a jetter and cable tool drill. He is pictured drilling with cable tools on a 4-in. 82-ft. deep industrial well for a slaughter house.

In addition to easy one-man operation, Willour and 1-W owners everywhere enjoy smooth performance and fast footage on a variety of 2 to 6-in. shallow-depth wells. The 1-W is also available as a hollow rod or rotary drill. Investigate this compact, 4-way combination today. Write us direct or see your nearby Bucyrus-Erie distributor, now. 116W58C

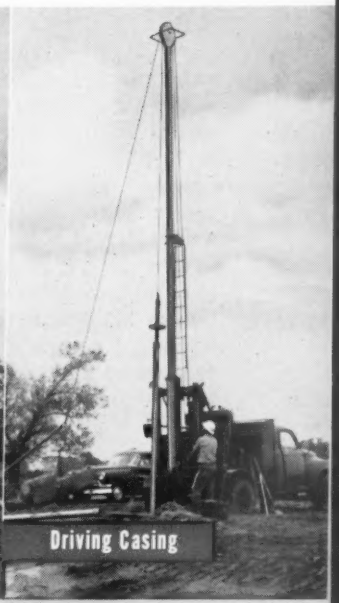
BUCYRUS ERIE



Drilling

Removing drive clamp

Bailing



Driving Casing

BUCYRUS-ERIE COMPANY

DRILL DIVISION

U.S. Highway 40 West, Richmond, Indiana

FIRST with the FINEST in Water Well Drills

in handling either acid, for it will burn the flesh and clothing of the operator. A basic solution of sodium hydroxide or common baking soda should be kept handy to neutralize any acid in contact with the skin. Whenever possible, sulphuric acid should be deposited by a pumping machine to avoid physical contact, as it is much more dangerous than hydrochloric.

Some operators also obtain good results with "dry ice," which is carbon dioxide in solid form. When dumped into water in a well, dry ice changes rapidly from the solid to gaseous state with considerable pressure. It is therefore desirable to confine such action by capping the well after each deposit. This forces gas out through openings or perforations in the screen to loosen the clogging material.

A deposit of 10 to 15 pounds is generally used first. If a feasible increase is indicated, 25 to 50 pounds may be used. A well cap provided with a pressure gauge and relief valve should be included to observe and control pressures. Dry ice works better in deep wells where there is considerable water because the gas it generates is expended too quickly in wells of low heads.

Dry ice with chlorine solution is frequently used to cure contamination or algae growth in wells. The release of carbon dioxide builds up pressure to force the chlorine out into the formation. Heavy chlorine applications should be followed with a solution of sulphur dioxide to counteract the corrosive effects of the chlorine.

When writing advertisers please say you saw it in *The Driller!*

The above remarks apply to natural causes of well failures. Mechanical reasons are perhaps more numerous because they involve to a high degree the competency of various personnel and the selection of material.

1. Poor Formations. If a driller attempts to finish his open pipe hole in sand too light and fine to permit development, the well will always pump sand, and perhaps in time sand will even be pumped to a level inside the well where its quantity and weight will shut off the water. Sizable gravel particles must be encountered to provide a suitable bottom which will stay in place after years of pumping.

2. Improper Location. Eventual failure also results from overpumping a well because more water is continuously being taken out of the formation than is being supplied. This frequently happens when wells are placed too close to one another, causing more water to be drawn from a formation than the rate of recharge will permit.

3. Wrong Construction. The type of well construction is important, for unless perforations are made in accordance with the formation and unless sufficient intake screen area is provided, the well may fail from excessive incrustation and corrosion resulting from the rapidity of intake.

Materials used to build a well also have a bearing on its life expectancy. Many times thin-walled casing is used when more substantial pipe should be provided, or the screen is constructed of iron or steel when other metals should have been used to prevent

rapid deterioration through corrosion.

Certainly a structure of the importance of a water supply demands the best material available, constructed by methods conceded to be correct. In the well drilling industry there should be no attempt to "cut corners." Reputations are built on good workmanship, good materials, and good equipment.

Kinzer . . .

(Continued from page 17)

because we are the only drilling contractor listed there. As a result, when a person looks up the name of a drilling contractor, we always end up getting his business."

Kinzer's pretty blonde wife, Lucy, takes phone calls at home from potential customers. "She's quite a saleslady," Willard laughed. "Once a customer gets on the line she very seldom lets him get away without selling him a well. She's probably more adept at selling than I am." Lucy also helps Willard keep the firm's books up-to-date.

The father of two sons, 6-year-old Jerry and 11-year-old Terry, Kinzer has no intentions of trying to persuade them to go into business with him when they grow up. "Drilling," he explained, "is something you have to really be interested in if you want to be successful. If the boys show any interest, I'll certainly encourage them, but I won't try to push them into it."

If the boys should eventually take an interest in their dad's profession, they'd do well to follow his example of providing optimum service to his old customers as well as the new. This arrangement has certainly paid dividends for Willard Kinzer.

White Flomatic Valves

If you want your pumps to produce with maximum efficiency and a minimum of service calls, be sure to use Flomatic valves. They're precision made of high quality bronze, with twenty years' experience behind them.

If your jobber can't supply you, write us.

Foot Valve
WHITE FLOMATIC
Check Valve

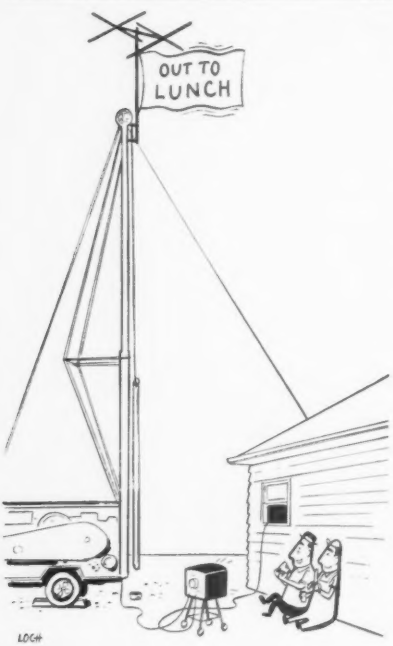
WHITE FLOMATIC CORPORATION Hoosick Falls, New York

Taskers . . .

(Continued from page 25)

some quite prominent people for our customers. Quite some time ago, for example, we were called on to drill a well for a summer home up near Sugar Hill (northern New Hampshire). It turned out that the home belonged to movie actress Bette Davis. We dealt directly with Bette — she signed the contract and everything. The well we drilled for her ended up at 430 feet, producing something like 20 or 25 gpm."

The Taskers claim to average about 4,500 feet of hole per year with each of their four 22-Ws. They charge customers for wells on a footage basis. On gravel wells, however, a definite contract price for the finished well is agreed upon in advance. The firm estimates, however, that it drills only six or seven gravel wells in the course of each year.



The fastest drilling job ever completed by the Taskers was a 244-ft., 6-in. well Murray drilled for a parsonage in the town of Northwood. Hitting blue shale at 20 feet, he drilled through this to the 244-ft. completion depth in five 10-hr. work days. This included moving in, setting up and moving out. Commenting on the relative speed with which this well was completed, Murray smiled, "We don't always turn in that sort of production record, unfortunately. All in all, though, it's not uncommon for our men to drill 50 feet in one day."

The greatest flow to be derived from a Tasker-drilled well, 100 gpm, was obtained from one Elmer drilled for the New England Box Co. in Madison, N. H., in 1954. It was a gravel well, drilled at 6-in. diameter to a depth of 60 feet. The well was set with six feet of Johnson screen.

When Elmer and Murray decided to enter the drilling business in July, 1947, only Murray, who had been working as a driller for another contractor for some time, had any experience. Elmer had been working as a mechanic in a garage. When they purchased their Bucyrus-Armstrong 33-W they didn't have a single job lined up for it. They were well known in the Northwood Narrows area, however, and soon received requests to drill several wells. Then they hit a slack period during which there was no work for themselves or their newly acquired drill. They considered going into the woods to chop lumber to supplement their income. Then things began to pick up and they received one well job after another. In Febru-

(Continued on page 54)

"I make fewer maintenance call-backs because I install... DEPENDABLE

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When I install a dependable Deming Pump and Water System I assure myself permanent profit and many other important advantages. The rugged construction and precise engineering of Deming Pumps means my profits won't be eaten away by costly service 'callbacks'. My customers will benefit by longer, better pump performance at proven lower yearly cost of operation and up-keep."

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6 HORSEPOWER SIZES FOR 4" WELLS

½, ¾, 1, 1½, 2 and 3 horsepower sizes in single phase 208-230 volts . . . 3 horsepower, three-phase 208-220 volts. Capacity range, 4-50 gallons per minute. For well lifts to 400 feet.

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The all-new Myers "SC" Submersible (5, 7½, 10 and 15 horsepower) is ideal for farm, irrigation, factory, school, municipality, dairy, motel, golf course, park and estate. 15 combinations available in two types: "pancake" construction for 40-80 GPM and "bowl" type for 90-200 GPM. Both types are proven submersible pump designs and every pump is factory tested. BOTH PUMP AND MOTOR ARE BUILT AND GUARANTEED BY MYERS . . . PRICED FOR PROFIT AND DESIGNED FOR FIELD MAINTENANCE.

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Taskers . . .

(Continued from page 50)

ary, 1948, they purchased their first Bucyrus-Erie 22-W.

Reflecting back on their early days, Murray stated, "Business has been very good ever since we started, except for that temporary slack period those first few months. We've been able to keep our four rigs drilling steadily and, if we were able to find enough help, could keep ten of them on the go."

In addition to the advertising they place in the small local newspapers and in the classified sections of phone directories in their area, the Taskers give away advertising novelties, thermometers, etc. to their customers. They feel that advertising of this sort plays an important role in keeping themselves and their equipment busy.

When asked about any difficult fishing jobs they had encountered, Elmer shrugged his shoulders and replied, "Sure, we've had some pretty tough ones, but never once have we had to give up on a job. I'll swear by the friction socket for getting lost tools out of the hole. A lot of drillers prefer the slip socket. They claim that friction sockets will slip off the tools too often, but I've never had any trouble on that score.

"We've never had to give up on a well we were drilling to say it couldn't be completed," he continued. "As far as I'm concerned, anyone who can't finish drilling a water well with a spudder just isn't a well driller." And judging from the way their business has grown in a little over a decade, and from the number of wells they've drilled during that time, the Taskers and their men can be considered well drillers in every sense of the word.

You've Had a Taste...
NOW GET THE FULL STORY

You've seen articles in recent issues of THE DRILLER — The History of Water Well Drilling, Geological Aspects, Pumps — all based on chapters from WATER WELL DRILLING WITH CABLE TOOLS by R. W. Gordon. But the complete 230-page hard-bound volume offers much more. Here's just a partial list of the more than 20 chapters:

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DRILLS FOR SALE

Reich 600 rotary, 3 years old, mounted on INC R-190 heavy-duty truck, 10-wheeler, powered with Cummins diesel engine, 150-hp, with power take-off drive. Equipment includes air compressor, mud pump, dust collector, 2 electric hoists and complete tool equipment to drill 6", 7", 8" holes, 500' 3½" heavy-duty drill rod, etc. Newly painted and a bargain at this price. Price $20,500. Terms can be arranged.

Bucyrus-Erie 22-W, Caterpillar mounted, machine used for quarry or road work. 40' telescoping derrick, with stiff legs. Powered by diesel, complete set of tools. Price $3,500.

Keystone 72 drill, mounted on heavy-duty White truck. 50' telescoping derrick; stiff legs. Complete set of tools. Machine used very little. A-1 condition. Price $8,500. Bargain at this price. Contact: Louis E. Allyn, East Canaan, Conn. Phone: Taylor 4-5600.

1952 Failing 750 rotary drill rig, mounted on 52 Ford F-6 truck, front end winch, 2 speed axle, complete with 150' of 2¾" x 10' "N" rod drill pipe, fair condition—$4,000. A. W. Williams Drilling Co., Inc., P. O. Box 314, Mobile, Ala.

For sale: Bucyrus-Erie, 20-W, 1949; on 1½-ton truck; with 4" and 5" tools. $2,500; without cables and tools, $2,000. Ed Perry, 14589 Waverly Ave., Midlothian, Ill. Phone: Fulton 8-1503.

DRILLS FOR SALE

22-W Bucyrus-Erie, truck-mounted; 2-speed rear axle. Good condition, now running. Tools for 4", 6", 8" wells. Price: $4,500. Must be seen to be appreciated.

Largest tool sale in company history. Acres of cable tools; must be sold. Over $50,000 worth of 4" to 36" tools, bits, reamers, mud scow, hailers, pipe trailers and threaders, etc. Air compressors (Sullivan) for sale, 315 c.f.m. mounted on international truck; ready to go for $1,500.

240 Star complete with tools and truck, both in very good condition.

24-L Bucyrus-Erie machine, diesel-power, mounted on Indiana 6 x 6, winches, power hoist, etc.

Will hold auction of above, September 19 and 20, subject to prior sale. Write for details.

Barney A. Moravec, Penn Yan, N. Y. Phone: 390.

For Sale: Keystone, No. 3 cable, drill rig mounted on 50 International truck; all tools, cable, cutters, etc. to add to or start a business. Price $1,-800. Mrs. Walter Catlow, 7716 Taft St., Crown Point, Ind.

22-W Bucyrus-Erie mounted on 1940 GMC 10 x 10 truck. Drill equipped with casing reel, catheads, tool guide and 36' telescoping derrick. Complete tools and lines for drilling 6" diameter wells. Price $4,000.

20-W Bucyrus-Erie mounted on 1953 Chevrolet truck. Drill equipped with casing reel, spooling device, tool guide and 36' telescoping derrick with power hoist. Complete tools and lines for drilling 6" diameter wells. Excellent condition. Price $4,700. James Nielson, R. D. #1, New Paltz, N. Y. Phone: ALpine 6-7124.

No. 240 Star drill on 1946 Ford truck. Continental engine; with 6" tools. John H. Mays, Mt. Aetna, Berks Co., Pa. Phone: Frystown 72R12. Do not write; phone.

Bucyrus-Erie 36-L, complete with tools 5"-10", doghouse, light plant, casing tools, wire line, sectional house, truck and trailer. Also 45 Star spudder rear end, tools 6"-10", semi-trailer mounted. New sectional derrick house, all in good working order. Priced for quick sale. O. H. O'Neal, Montrose, Mich. Phone: Neptune 9-5671.

DRILLS FOR SALE

2—22-Ws, '56 models, mounted on C.O.E., GMC trucks, A-1 cond.; tools, cables, small tools, new paint. Priced to sell. 1—40 Cyclone, 2 yrs. old, cables, tools, welders. C. Enfield, Box 181, Buffalo, Iowa.

For Sale: 50 Keystone, A-1 condition, fully equipped with new 750' drill cable and tools for 6" and 8" work. Many extras, including test pump. Rig mounted on 50 GMC with 5-speed transmission and two-speed axle. Priced for quick sale to liquidate estate. '51 Chev. service truck also available. Call or write Lillian Ackerson, 77 MacDonald Drive, Wayne, N. J. Phone: Mountain View 8-0583.

Bucyrus-Erie 36-L Spudder #116250, delivered new October, 1956, equipped with 54' derrick, fittings for A-Frame, casing reel, casing tackle strut, automatic spooling, small tools, Cummins 6 cylinder 4⅞" x 6" model H1600 diesel engine, complete guy wires, 1800' of 1" drill line, 1800' sand line, 3-sheave, 50-ton casing block and hook with ¾" casing line, tool crane, 1500' measuring line and reel. Equipment mounted with 5th wheel bracket on removable tandem rear axles with pneumatic tires (8) 9:00 x 20", 10-ply with air brakes. This drilling rig, now operating in Orlando, Fla, will be available for delivery about August 15. Also on 36-L Spudder, Serial #116248 or #116249, with duplicate equipment will be available about October 1. A complete assortment of cable tools for drilling 15" diameter to 28" diameter will be available with equipment. These drill rigs have operated only 12 hours per day since Fall of 1956 and are in like-new condition. Desire sale of this equipment for cash. Delivery can be arranged. Contact Sydnor Pump and Well Company, Inc., Box 1476, Richmond, Va. Telephone: MIlton 3-2725. All offers will be considered.

71-Star powered by Allis Chalmers engine, mounted on a 1946 Ford truck, less tools and lines, cleaned and painted.

22-W Bucyrus-Erie mounted on 1948 2-speed Ford truck, powered by Buda engine recently overhauled, less tools and lines. S. B. Cantrell, Jr. Utility & Industrial Supply Co., Jackson, Mich. Phone: STate 9-6192.

DRILLS FOR SALE

One reverse circulation drilling rig made to order by Joe Franks, Enid, Okla. This machine has a special 45′ mast with 60,000 lbs. capacity instead of the standard 35′ with 35,000 lbs. capacity. Machine has a heavy duty sand line extra and a Gorman-Rupp centrifugal pump for regular rotary operation. The table is similar to the Winter-Weiss open ring gear type tables. This one was made by California Welding & Equipment Co., which builds earth auger equipment. It has an open area of 52″. It may be the largest ring gear ever built. All the earth auger equipment is standard. Continental 244 engines are oversize for this rig. It is estimated that replacement cost of this rig today would be $34,000. Rig has drilled only two reverse hydraulic wells and about seven shallow large diameter wells. It is practically new. Bargain priced at $20,000. The Layne Ohio Co., Box 724, Columbus, Ohio.

20-W Bucyrus-Erie Drill, about four years old, complete with casing reels, spooling device and electric starter. Propane equipped for real economy and excellent engine performance. 500′ drill and sand lines and 4″ string of tools with bailer. Price—$3,500.00. R. C. Hoover, West 33rd St., Zion, Ill. Phone: TRinity 2-3471.

21-W Bucyrus-Erie, 33′ mast, Minneapolis-Moline power unit, mounted on 1950 cab over engine Chevrolet truck, ⅝″ drill line, ⅜″ sand line. Price: $1,850. K. C. Mersch, 1312 B. Ave. N.E., Cedar Rapids, Iowa. Phone: EM. 3-4808.

Bucyrus-Erie Model 28-L, spudder. This one has been thoroughly overhauled and new parts installed, including shock absorbers, sheave bushings, bearings and parts where needed. Rig has been steam-cleaned and painted. It is powered with a Caterpillar D-315 diesel engine (also overhauled). This drill is semi-trailer mounted—looks and runs like new. We have not spared any expense in overhauling it. Price f.o.b. our yard, $16,000. Casing tackle strut included. Drilling & Mining Equp. Co., 2020 Sacramento St., Los Angeles 21, Calif.

1 #160 Howell drill rig with 35 hp Red Seal motor; practically new; V-belt drive, mounted on a 1948 2-ton Reo truck; newly painted; good condition. Priced to sell. Contact: Ronald Sauer, Ely Road, Route #2, Cedar Rapids, Iowa. Phone: EM. 4-3970.

DRILLS FOR SALE

Ready to sacrifice, Dunlap Reverse Circulation water well rig, semi-trailer mounted; 35′ tower, 15′ kelly, 6″ displacement, welder, light plant, 332′ drill stem, bits, complete set tools. Guaranteed top condition. Owner deceased, must sell. Originally priced at $16,000. Will consider any cash offer or a trade for clear real estate. Virginia Thomson, 5415 E. Osborn Road, Phoenix, Ariz. Phone: Whitney 5-0252.

1500 Failing, 42′ mast, 3½″ kelly; 5 x 8 pump; '55 rig and truck; Failing 1500, '52 truck; pipe, tools; $6,750. Franks 1000, Failing 1000, others. Fred Butler, Box 481, Pueblo, Colo.

Keystone 50, tools and truck good condition. Contact Quentin Richey, Harrisburg, Ill. Phone: Clearbrook 3-2733.

Good Keystone 50 on good Ford tandem truck; 500′ lines, 4″, 6″ and 8″ tools, fishing tools. 1949 Studebaker 2½-ton flatbed truck. Rex Huber, Box 5, North Point, Pa. Phone: Dayton-Clinton 1-8569.

33-W mounted on Dodge truck, complete with 6″ drilling and fishing tools, LeRoi motor and lines. Price $2,500. H. Jones, R. 3, Fairfield, Conn. Phone: Amherst 8-0166.

Custom-built rig for 2″ work. Mounted on 1949 2-ton Chevrolet truck. Rig in good condition and working daily. Bell Well Drilling Co., Selden, L.I., N.Y., Phone: SElden 2-3130.

20-W Bucyrus-Erie mounted on Diamond T truck. Machine purchased new in 1950 and is in good condition. Price complete with tools and lines for drilling 6″ wells, $3,000. Albert Cerak, Buckout Road, White Plains, N. Y. Phone: WH 9-9530.

1949 Model 50 Keystone, with all tools for 6″ and 8″ wells; truck mounted; now working; best offer. Write Box No. 737.

20-W Bucyrus-Erie, 1955 model mounted on good 1949 cab-over-engine. Dodge truck with new motor. Drill equipped with telescoping derrick, casing reel, and complete tools & lines for drilling 6″ diameter wells. Price: $3,750. Stanley Waddington, Mountain Ave., Lincoln Park, N. J. Phone: Mountain View 8-2303.

21-W Bucyrus-Erie ready to drill, $2,000. Also other good drills. Phone: SPruce 7-6331, Tom's Well Driller Supplies, 933 Fern Ave., Reading, Pa.

DRILLS FOR SALE

1—1957 Bucyrus-Erie 1-W drill, complete with all rotary attachments, which includes three stage Moyno slush pump, rotary hoses, mud tank, 200′ 2⅜″ drill pipe, bits, lines and weights. Machine mounted on 1952 Dodge truck. Priced to sell.

1—1956 Bucyrus-Erie 60-L drill, trailer mounted, complete with 5⅛″-10″ tools, shed and truck. All equipment in A-1 condition. Priced to sell.

1—1954 Bucyrus-Erie 20-W drill, without truck. This machine has been rebushed and repainted.

1—Bucyrus-Erie 21-W drill, mounted on International truck. Machine equipped with folding braces, Waukesha engine, with electric starting, lines, catwalks, and tool boxes. Machine and truck both in good condition.

1—1954 Bucyrus-Erie 22-W drill, without truck. This machine has been repainted, and is in excellent condition throughout.

1—1952 Bucyrus-Erie 36-L new style drill, equipped with tandem axle, HI-600 six cylinder 4⅞″ x 6″ Cummins diesel engine. This machine equipped with crane, lines, and casing block. Has been used very little and is in excellent condition.

1—Bucyrus-Erie 22-W drill, 1948 model, mounted on 1948 Chevrolet truck. Machine equipped with Hercules engine, casing reel, and spooling device.

3—1948 model 36-L Bucyrus-Erie drills, trailer mounted, equipped with strut, and tool crane. Two have 140-GK Waukesha gas-gasoline engines, other has LO-525 Buda gas-gasoline engine.

1—Model 31 Stone machine, mounted on Chevrolet truck. Truck has been repainted, machine has been rebushed and repainted.

1—Model 240 Star, mounted on GMC truck. Machine has been rebuilt and repainted. Truck also repainted. This machine is in good condition and priced to sell.

1—Model 71 Star, mounted on Chevrolet 4 x 4 Army truck. This machine recently rebuilt at factory, and is equipped with new F-162 Continental engine. 500 ft. new ⅝″ and 500 ft. new ⅜″ line.

1—1950 Model 72 Speed Star, mounted on FWD truck. This machine has done very little work, and is in excellent condition. Machine equipped with full set of lines, rubber shock, and Continental engine.

Contact: The Buckeye Supply Co., P.O. Box 1231, Zanesville, Ohio.

DRILLS FOR SALE

1—1941 Model 22-W drill mounted on a 1946 International truck. Casing reel, spooling device and power derrick hoist. The Waukesha engine has been completely overhauled. The drill has been shopped and truck and drill newly painted. No lines or tools. Price: $3,375 cash at Jacksonville, Ill.

1—1956 Model 20-W drill mounted on a 1947 Ford truck. Casing reel, spooling device and power derrick hoist. Drill motor has been completely rebuilt. Drill has been cleaned and painted and is in A-1 shape. No lines or tools. Price: $3,995 cash.

1—1954 Model 20-W drill mounted on a 1942 Ford truck. Casing reel, spooling device and power derrick hoist. 450 ft. of drill line. Price: $3,000.

Late model Gus Pech Boring machine mounted on a 2-ton Reo truck. Drill motor is a LeRoi 4 cylinder. 32" ring, 2 buckets, 18" and 22", extra extension blades. Truck and machine in A-1 shape. Price: $2,500. Call R. R. Long Co., or G. W. Chadwick, Rushville, Ill., Phone 775.

1—V4 Wisconsin engine with pulley. Good condition. Price: $100.

Call or write R. R. Long Co., R.R. #1 Mound Road, Jacksonville, Ill. Phone: 5-2613.

For Sale: 1955 Bucyrus-Erie model 22-W well drill, #113341. Tool guide and rubber cushioned sheaves. Drill Tools—joint size 2¼" x 3¼" x 7 API., drill stem 4½", drill jars 4¾" x 4½", stroke span. 2"-6" drill bits, dart valve bailer 4½" x 14', drive clamp, pipe tongs, jar bumper, claw end tool wrenches, cable cutter, Gill rock bit adapter, ¾-ton hoist, spooling device, 42' derrick. Mounted on 1950 Dodge, 2-ton chassis with 2-speed axle. Horace H. Hock, R.D. #4, Bloomsburg, Pa., Phone ST. 4-4859.

24-L Bucyrus-Erie drilling rig. Excellent condition, tools, light plant, doghouse & winch truck. Grant Mulleuax, 256 Wesleyan Pl., Owensboro, Ky. Phone: Mu. 4-4739.

Well drilling machines from 1½ to 3 years old. Three makes to choose from. Owner has bought rotary drill. Contact us for sale prices and terms. Box 733.

1—All-steel Keystone rig, mounted on truck, telescopic mast, Bucyrus-Erie shock. Tools worth price asked. Willis Ramsey, 321 Michigan Ave., Monticello, Ky.

DRILLS FOR SALE

50 Keystone, mounted on 1952 model 2½ ton GMC truck. Equipped with 38' derrick, starter, tool guide and powered with Red Seal engine, newly overhauled. With 6" tools and lines. Machine and truck in excellent condition. Price: $4,000. George Daniels Artesian Wells, 3 Cedar St., Tilton, N. H. Phone: Tilton 338.

Complete well drilling equipment. 22-W Bucyrus-Erie machine mounted on Army Half-Track, both in excellent condition. Also, 1949 model 1½-ton Reo truck mounted with 500 gal. water tank. Price $7,000 complete. Berner Well Drilling Inc., 3535 No. 124th St., Milwaukee, Wis. Phone: SUnset 2-9826.

MISCELLANEOUS FOR SALE

1—20-W #113483, casing reel, spooling device, starter, tool guide, fan blower, mounted on 1949 Chevrolet truck.

1—20-W #112699, partial starter, casing reel, fan blower, spooling device, Hercules engine, mounted on 1946 Chevrolet truck.

1—22-W #112620, Hercules engine, casing reel, spooling device, rubber sheaves, starter, fan blower, mounted on 1952 GMC truck.

1—4 cyl. Buda engine for 22-W, completely reconditioned, $275.

1—4 cyl. Waukesha engine for 22-W, completely reconditioned, $275.

1—LeRoi D-91 engine with power take-off and clutch for 20-W, completely reconditioned, $275.

Hickory Well Supply Co., Inc., P.O. Box 602, Hickory, N.C.

1—Full string of 5¾" tools, good as new, at half price. Willis Ramsey, 321 Michigan Ave., Monticello, Ky.

New pipe casing in stock: 3", 4", 6", 8", 10", 12". Reconditioned pipe casing in stock: 3" 4", 4½", 5", 6", 8", 10", 12". Cutting and threading facilities; attractive prices on request. H. Schwartz & Sons, 2235 North Boline St., Phila., Pa., Garfield 6-6464.

500' pocket size water level indicator, complete, ready to use, with one extra spud. Price: $21 post paid. C. W. Lutts, 705 Plaza Serena, Ontario, Calif.

MISCELLANEOUS FOR SALE

New and used pipe and casing. Tom's Well Driller Supplies, 933 Fern Ave., Reading, Pa. Phone: SPruce 7-6331.

For Sale: New 12" T & C pipe (Wt. 51 lbs.). Priced to sell. Hoeg & Ames, Inc., Lincoln, Iowa.

48-L—Two new unused Waukesha 6WAKU, 6 cyl., 6¼ x 6½" natural gas-gasoline engines.

40-R-48-L—One new unused Cat. D337, 6 cyl., 5⅛ x 6" diesel engine.

50-T—One new unused IHC UD-18A, 6 cyl., 4¾ x 6½" diesel engine.

1-W—One rebuilt IHC, U-I, 4 cyl., 2⅜ x 2¾" gasoline engine. Never operated after rebuild.

Above engines offered as is, f.o.b. South Milwaukee, Wis., subject to prior disposition. Will sacrifice for quick sale. Contact J. E. Smart, Bucyrus-Erie Co., South Milwaukee, Wis. Phone SO 2-0900.

WELL BUSINESS FOR SALE

Established drilling business and equipment for sale, due to ill health, including one 20-W Bucyrus-Erie 1954 Model, mounted on good Ford truck; complete tools for drilling 6" wells. J. D. Urey's Sons, Ira R. Urey, RD #2, Red Lion, Pa. Southern York Co. Phone Red Lion 35302.

Well Business for sale; Bucyrus-Erie 22-W, mounted on 6 x 6, ready to go on job; 6-8" tools with fishing tools; also pick-up truck. Peter Rochetti, RFD #3, Newburgh, N.Y. Call Newburgh 2-5194.

POSITION WANTED

Experienced cable tool driller desires position with reliable company. Can furnish excellent references. Age 37. Box 732.

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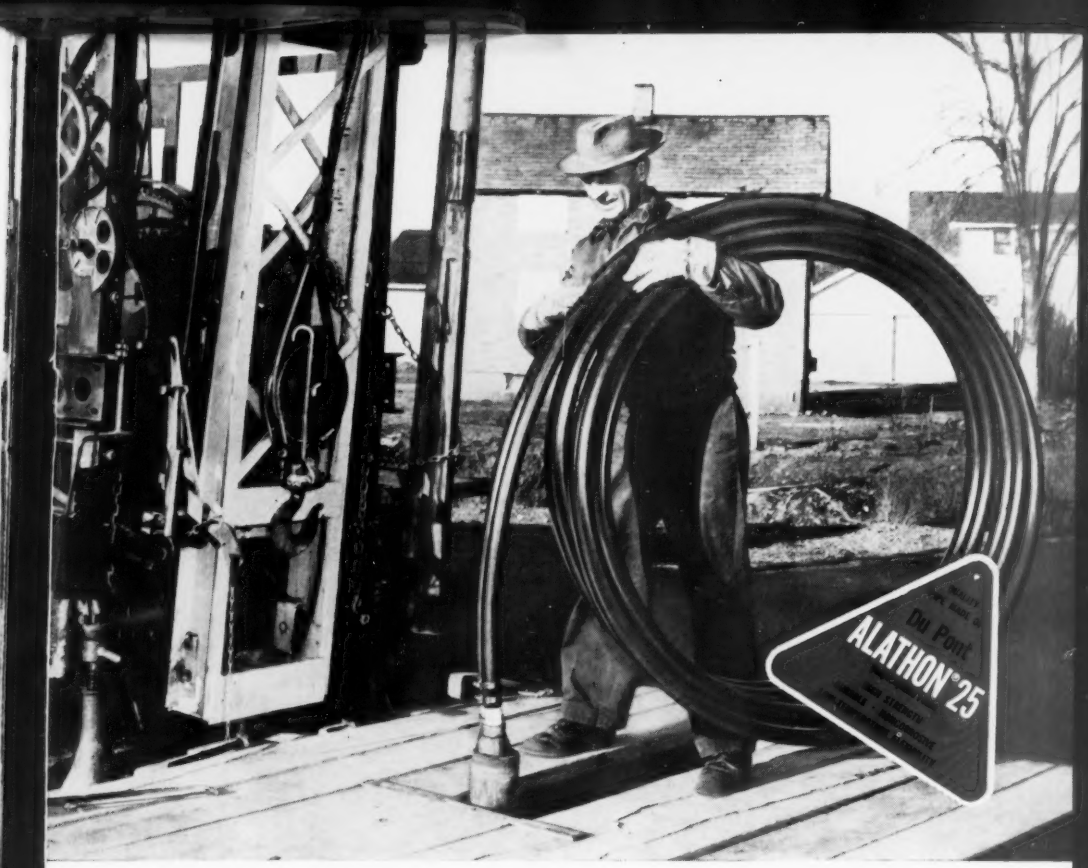

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"Of course, these savings would be only temporary, if it were not for the trouble-free *performance* of durable pipe of ALATHON 25. I've pulled pipe of ALATHON 25 from former installations and found it as clean inside as the day it was installed! And it never pinholes, splits or rots."

Be assured of complete satisfaction for yourself and your customers. Insist on the pipe with the green tag—your assurance of "Quality Pipe Made of Du Pont ALATHON 25 polyethylene resin."

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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Alaska-bound is this Bucyrus-Erie 22-W drill. The drill was loaded aboard a trailer, which Dan Gmeiner (left) and Arnold Holman are driving from South Milwaukee to Fairbanks, Alaska. This 22-W and another, to be loaded at Spokane, Wash., will drill in Alaska under a government contract. They are owned by **E. A. Holman & Son, Inc., Spokane.**

The **Driller**

The monthly magazine for water well drillers

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